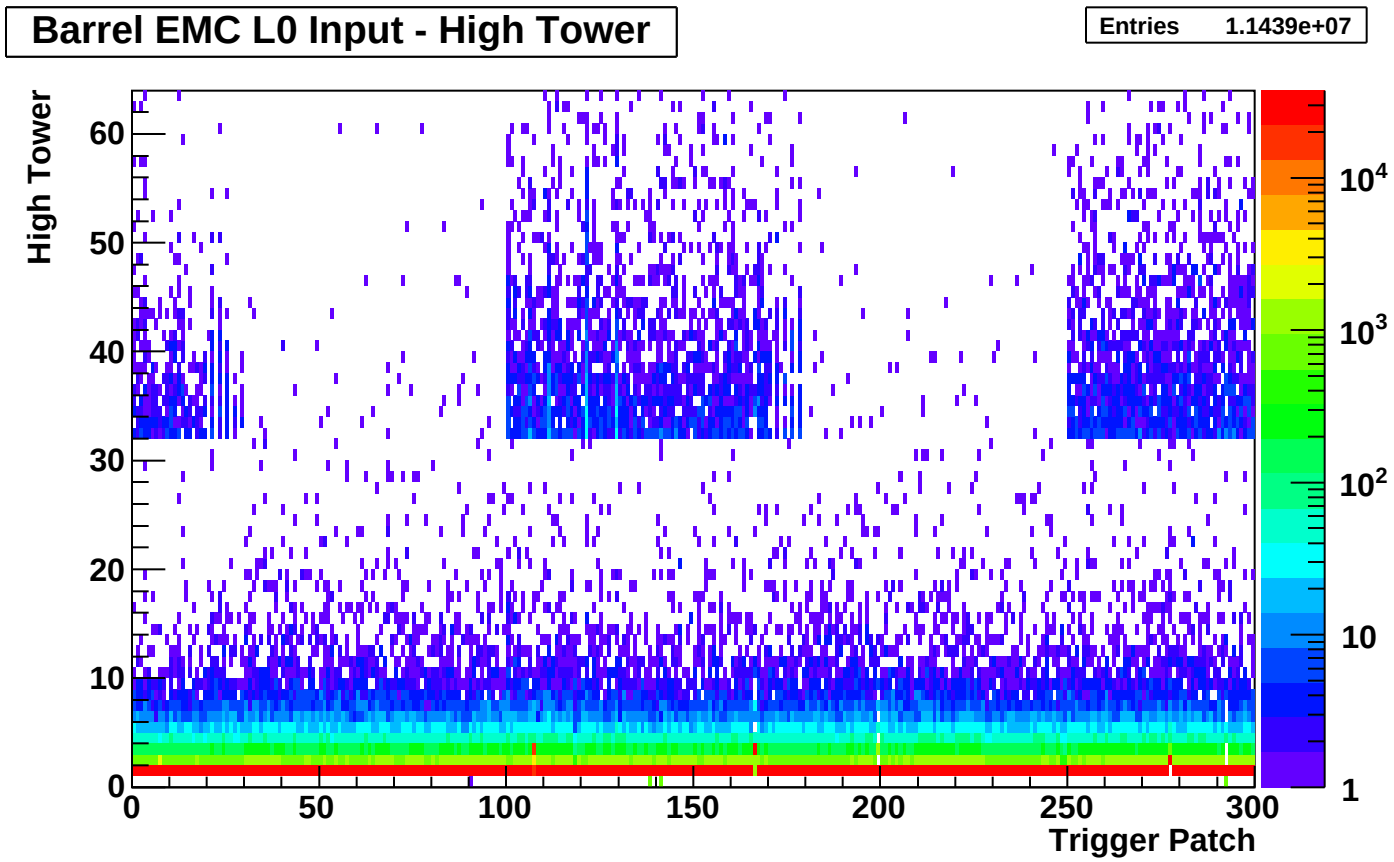
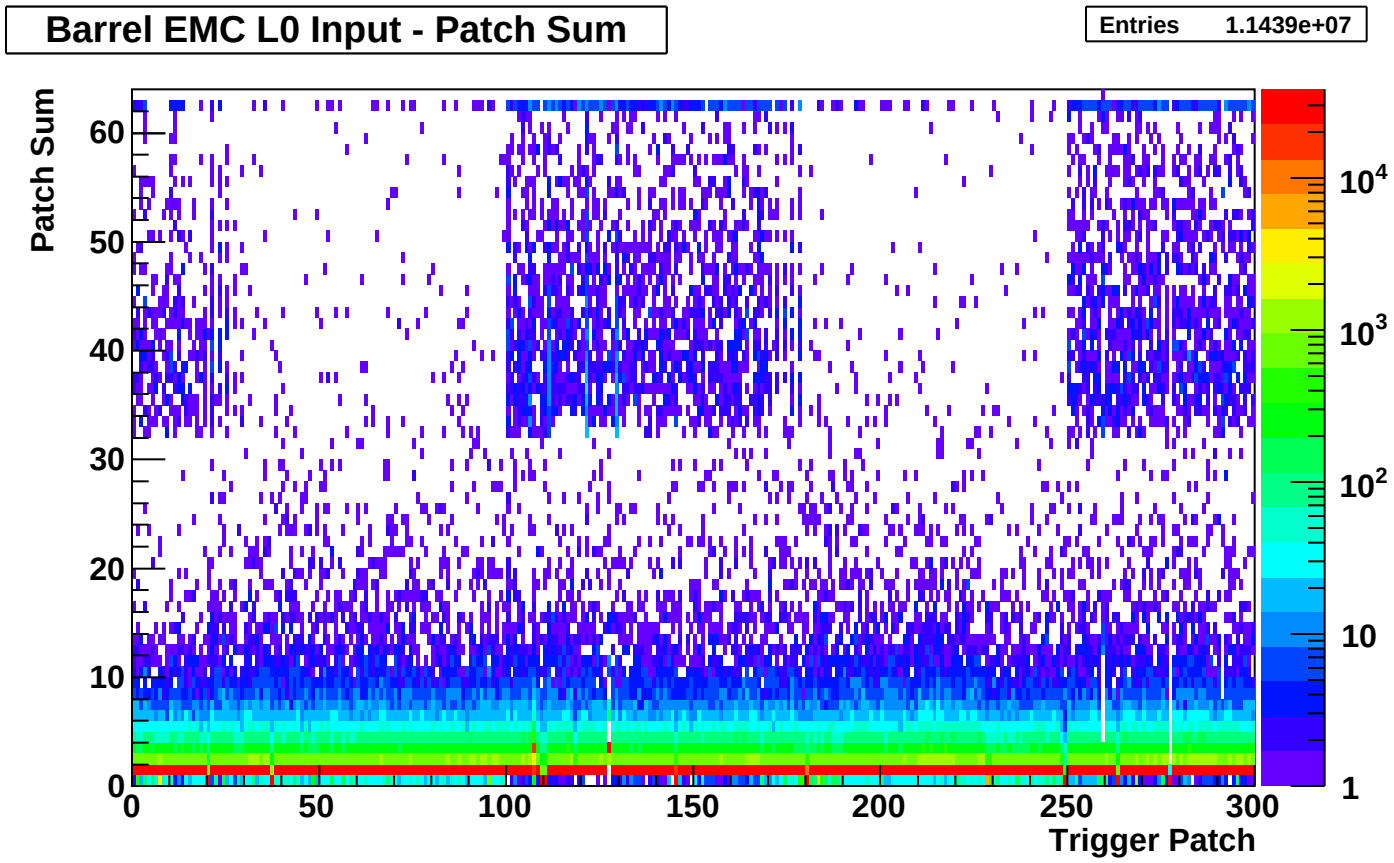
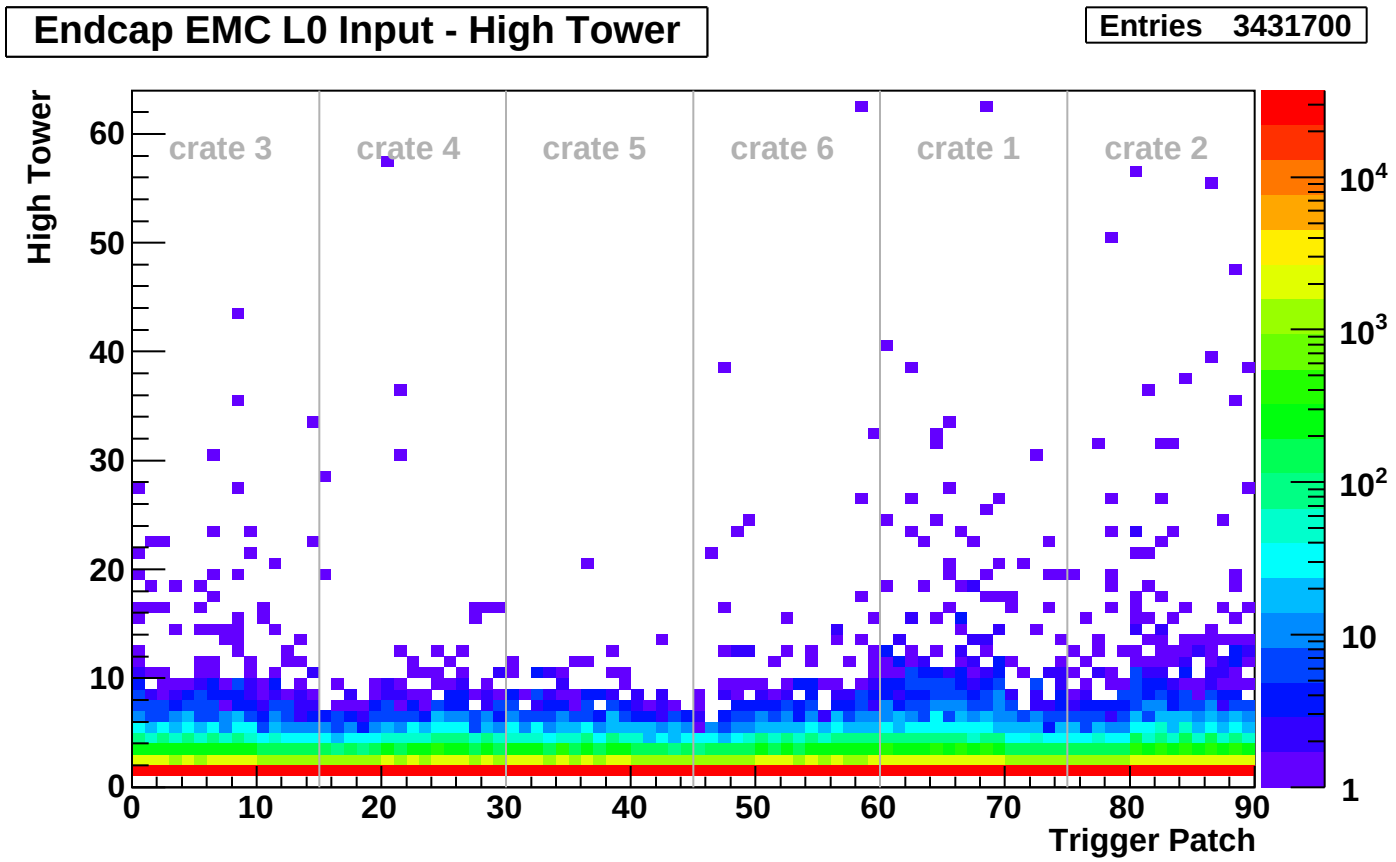
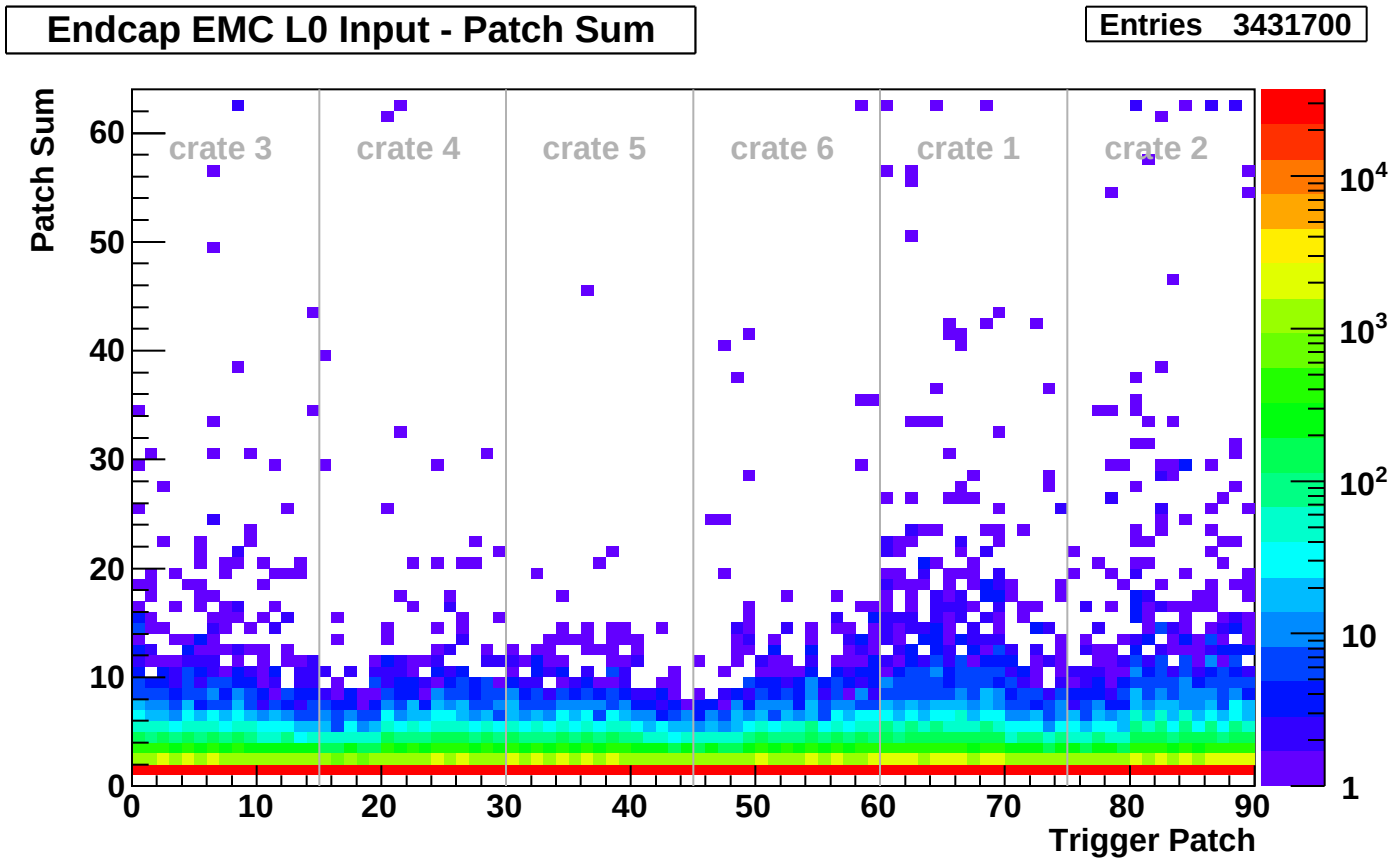
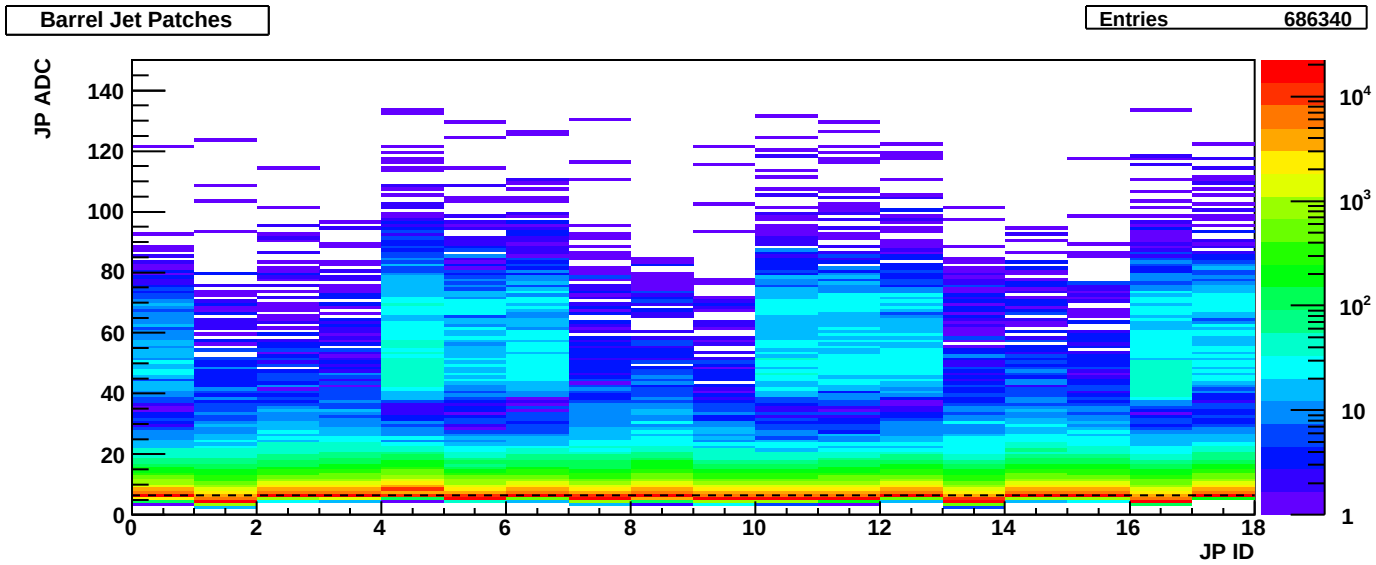
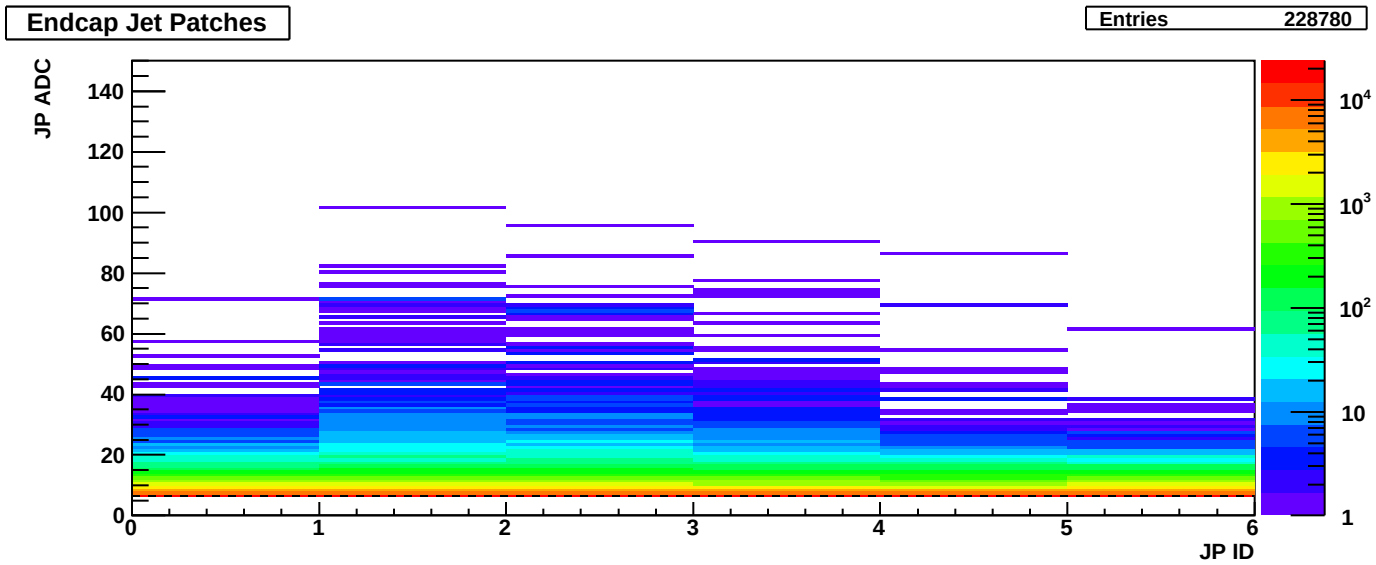

Barrel EMC L0 Input - High Tower
Entries 1.1439e+07
High Tower
Trigger Patch
0
10
20
30
40
50
60
0
50
100
150
200
250
300
1
10
10^2
10^3
10^4

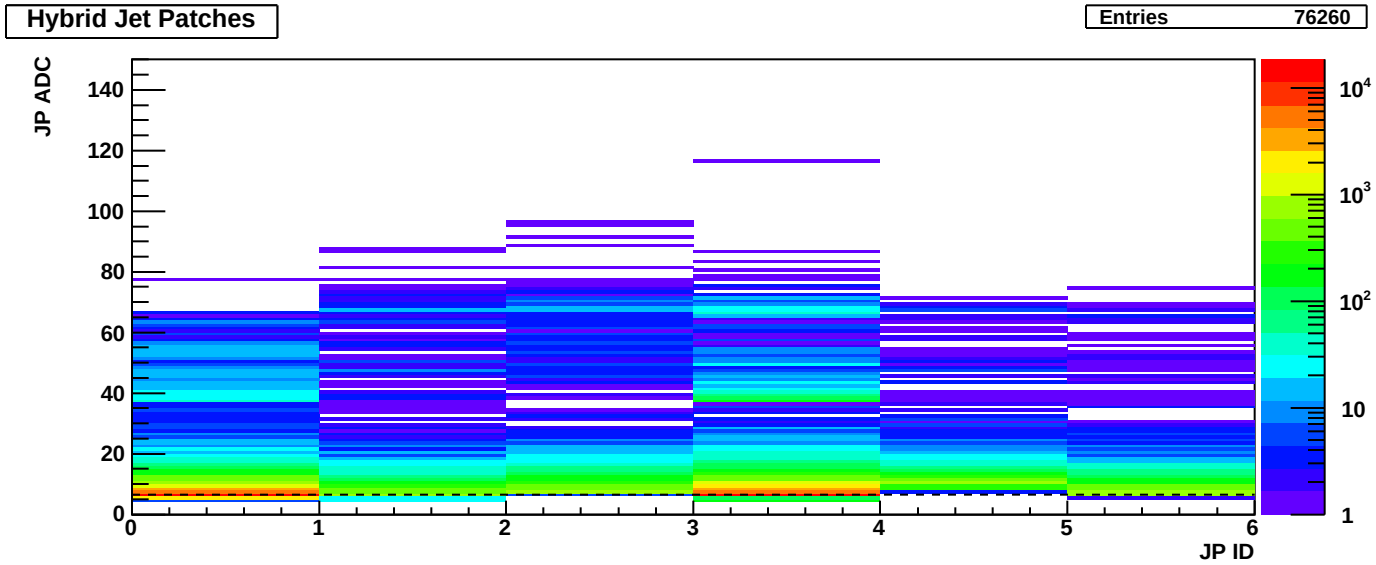

Barrel EMC L0 Input - Patch Sum
Entries 1.1439e+07
Patch Sum
Trigger Patch
0
10
20
30
40
50
60
0
50
100
150
200
250
300
1
10
10^2
10^3
10^4

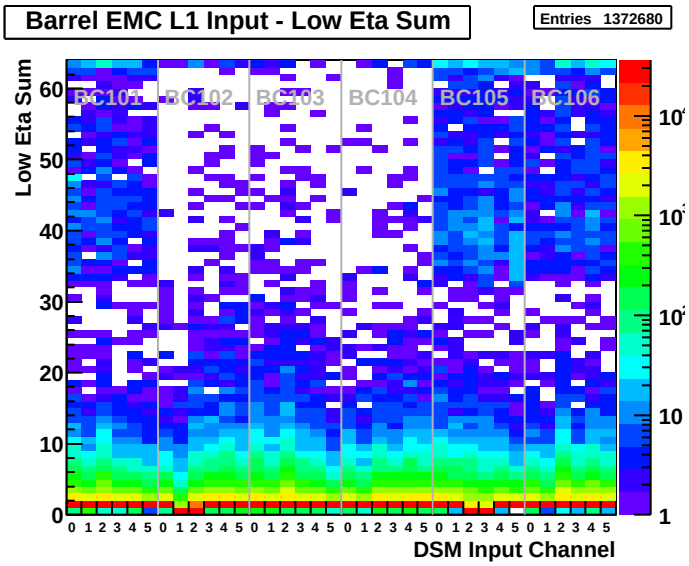

Endcap EMC L0 Input - High Tower
Entries 3431700
High Tower
crate 3
crate 4
crate 5
crate 6
crate 1
crate 2
Trigger Patch

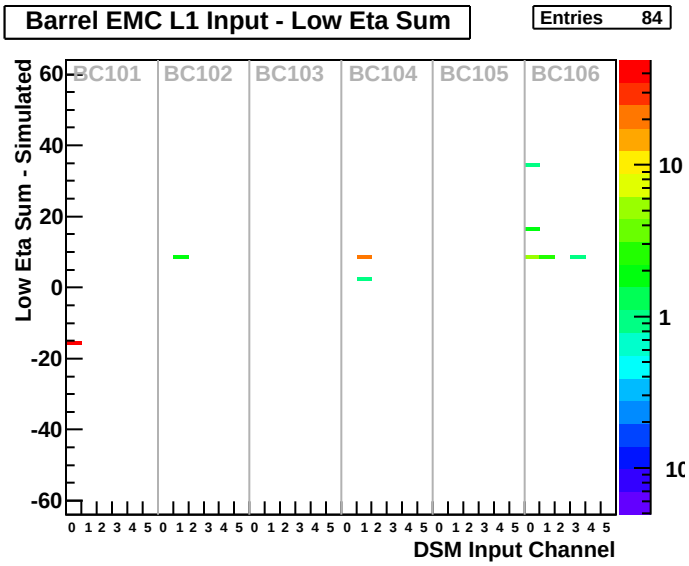

Endcap EMC L0 Input - Patch Sum
Entries 3431700
Patch Sum
crate 3
crate 4
crate 5
crate 6
crate 1
crate 2
Trigger Patch

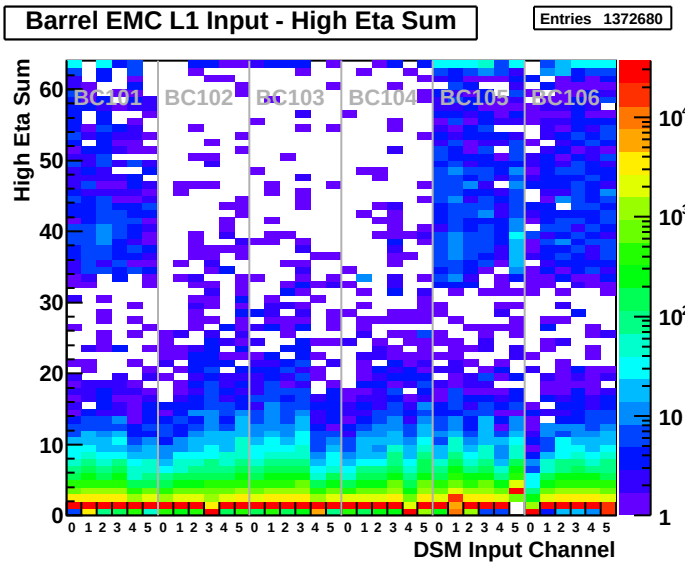

Barrel Jet Patches
Entries 686340
JP ADC
JP ID

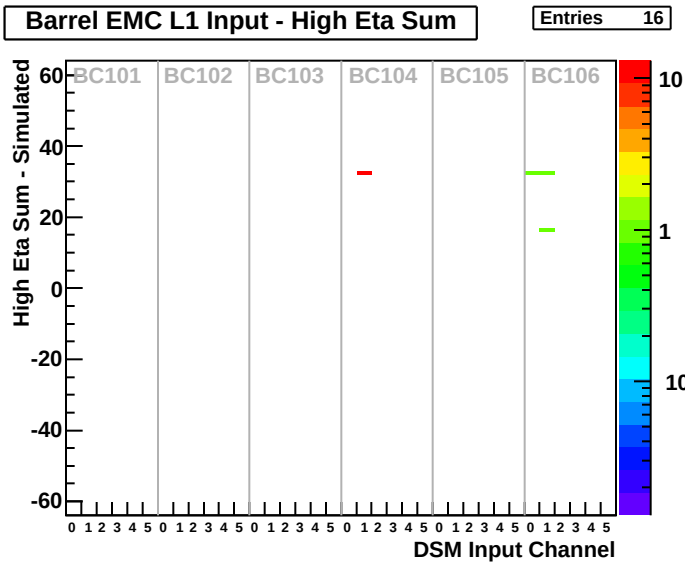

Endcap Jet Patches
Entries 228780
JP ADC
JP ID

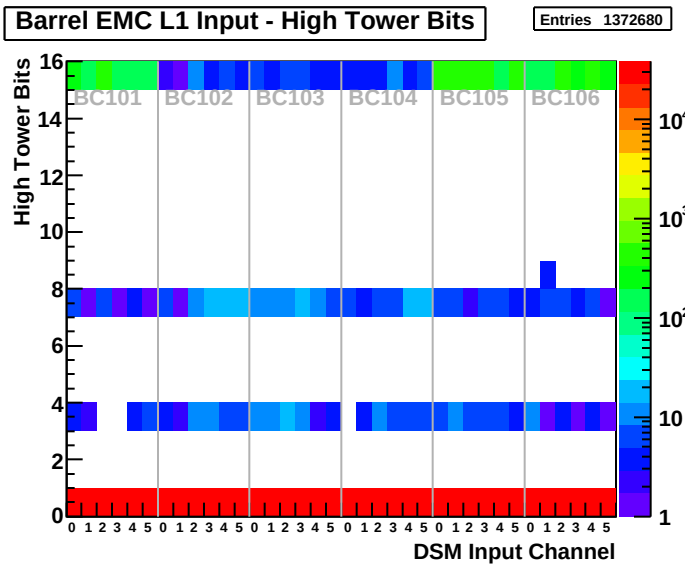

Hybrid Jet Patches
Entries 76260
JP ADC
JP ID

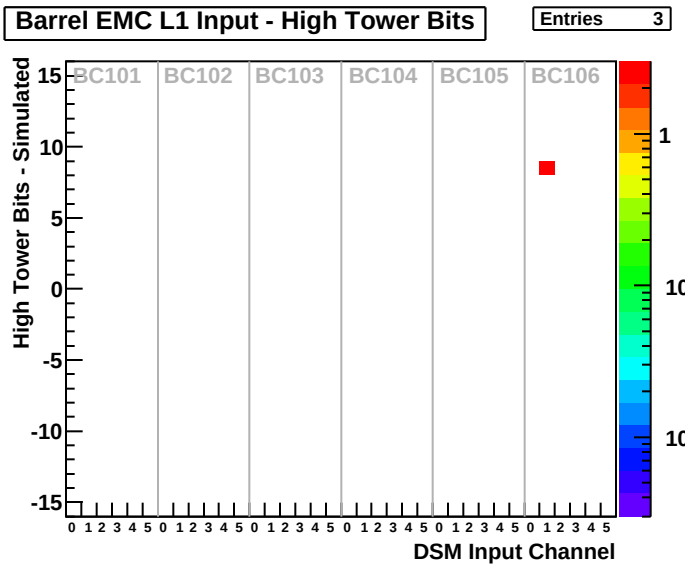

Barrel EMC L1 Input - Low Eta Sum
Entries 1372680
Low Eta Sum
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

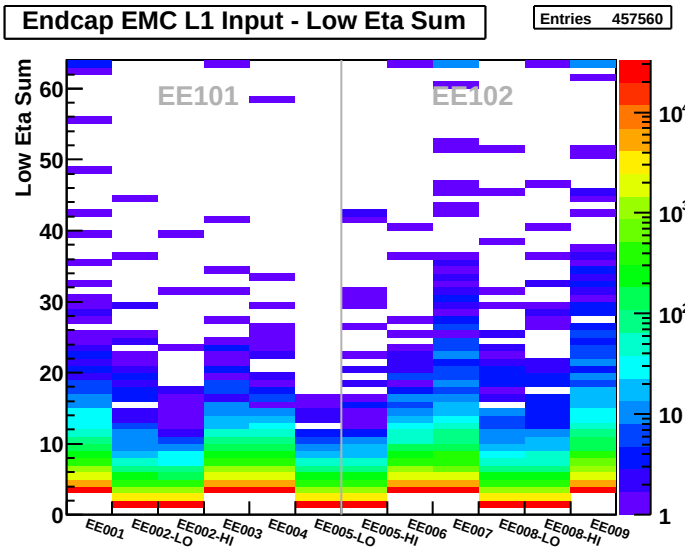

Barrel EMC L1 Input - Low Eta Sum
Entries 84
Low Eta Sum - Simulated
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

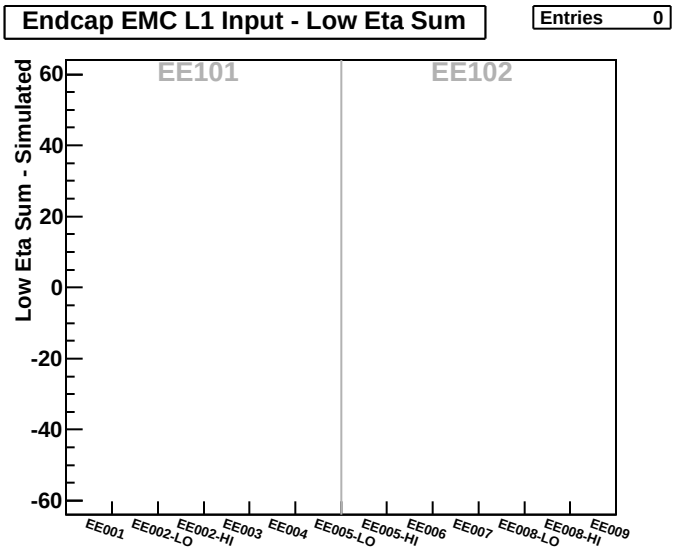

Barrel EMC L1 Input - High Eta Sum
Entries 1372680
High Eta Sum
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

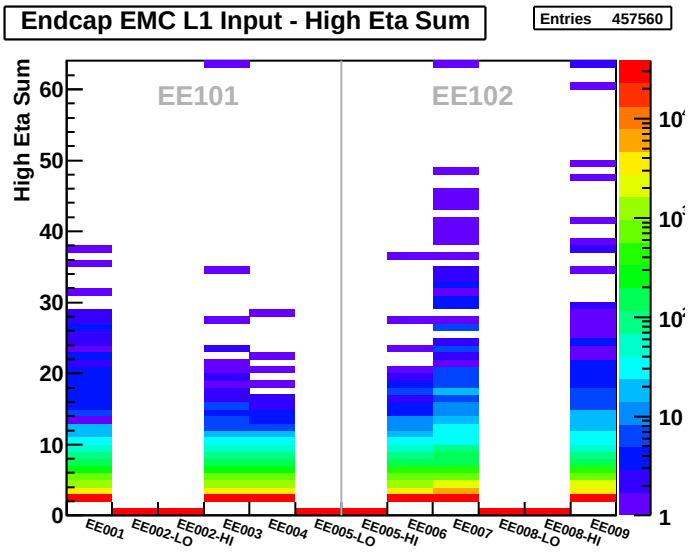

Barrel EMC L1 Input - High Eta Sum
Entries 16
High Eta Sum - Simulated
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

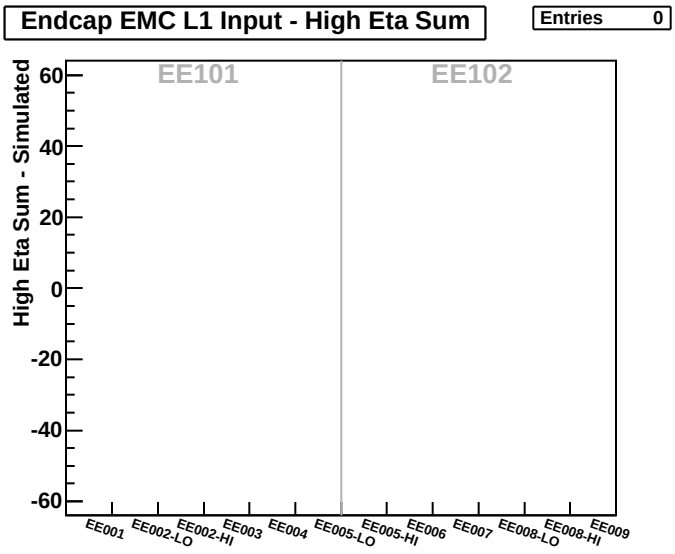

Barrel EMC L1 Input - High Tower Bits
Entries 1372680
High Tower Bits
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

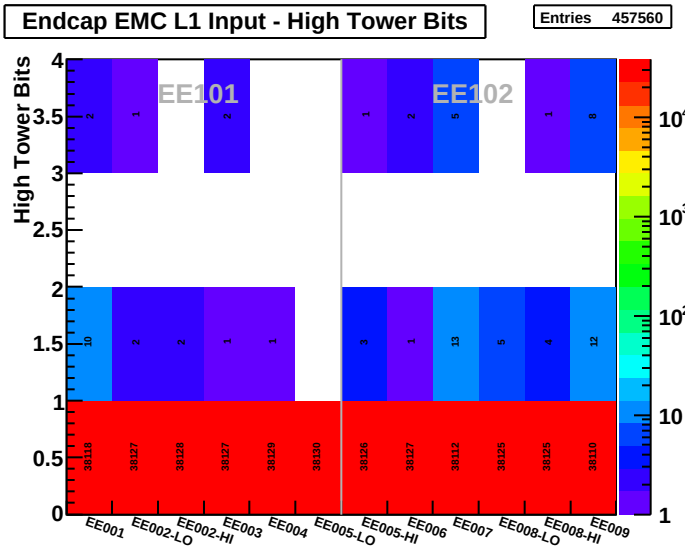

Barrel EMC L1 Input - High Tower Bits
Entries 3
High Tower Bits - Simulated
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

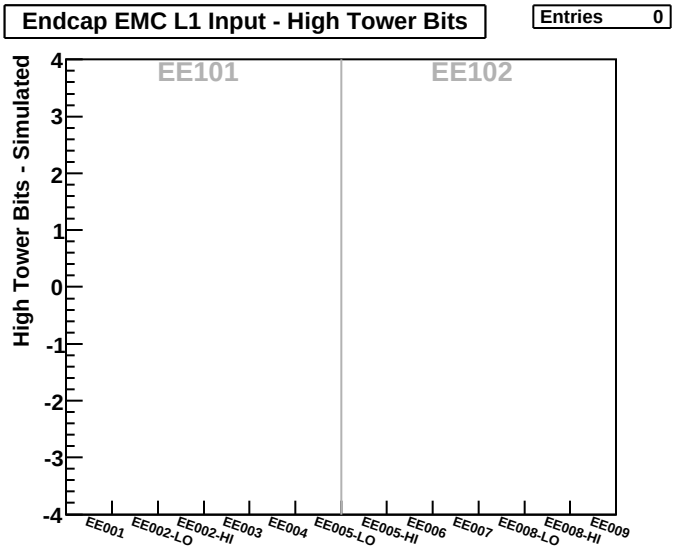

Endcap EMC L1 Input - Low Eta Sum
Entries 457560
Low Eta Sum
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

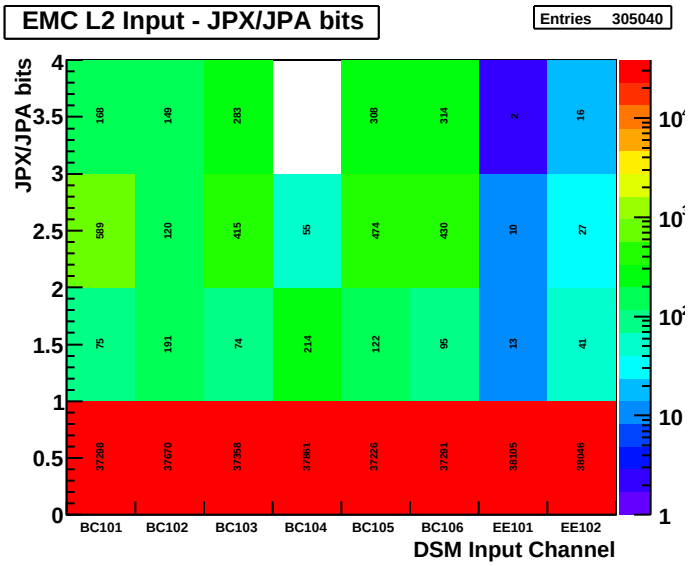

Endcap EMC L1 Input - Low Eta Sum
Entries 0
Low Eta Sum - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

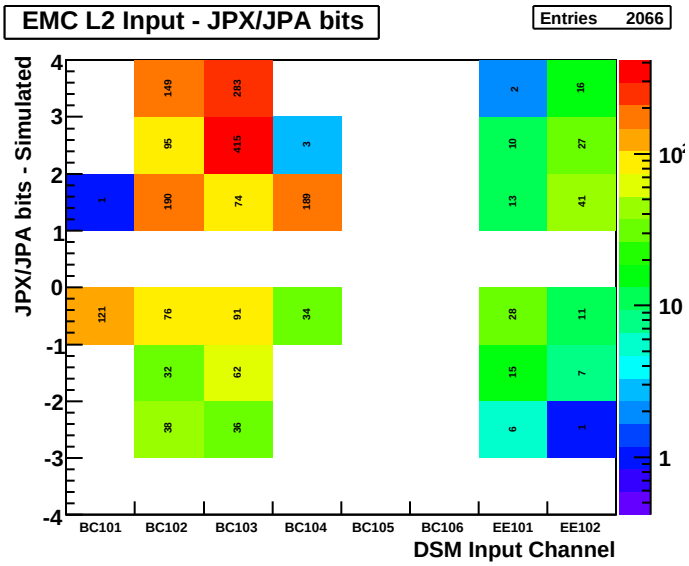

Endcap EMC L1 Input - High Eta Sum
Entries 457560
High Eta Sum
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

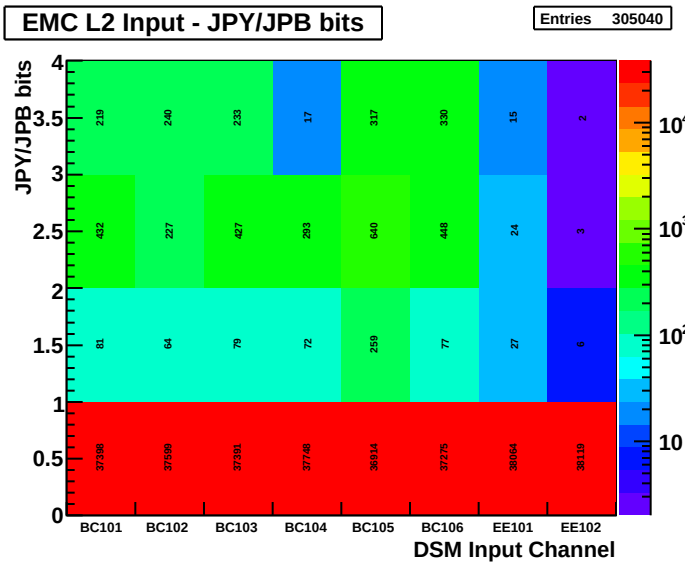

Endcap EMC L1 Input - High Eta Sum
Entries 0
High Eta Sum - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

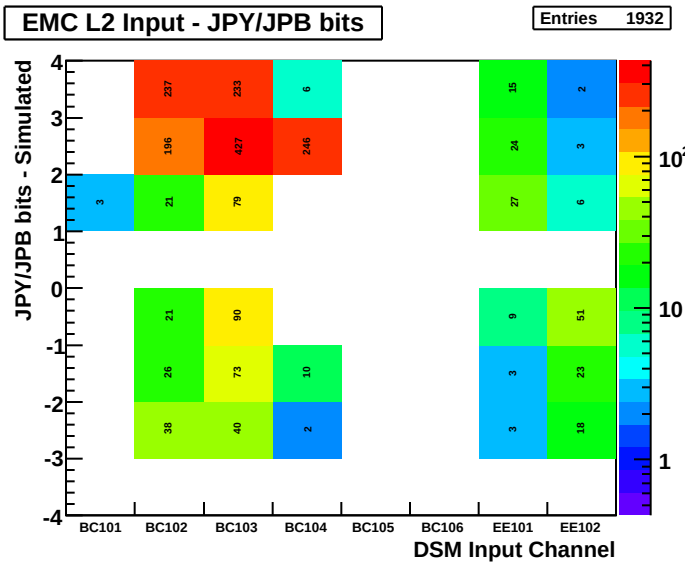

Endcap EMC L1 Input - High Tower Bits
Entries 457560
High Tower Bits
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

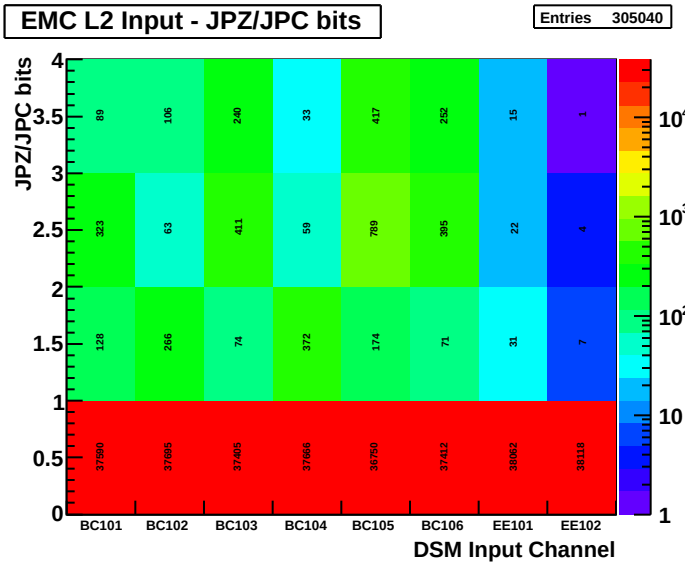

Endcap EMC L1 Input - High Tower Bits
Entries 0
High Tower Bits - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

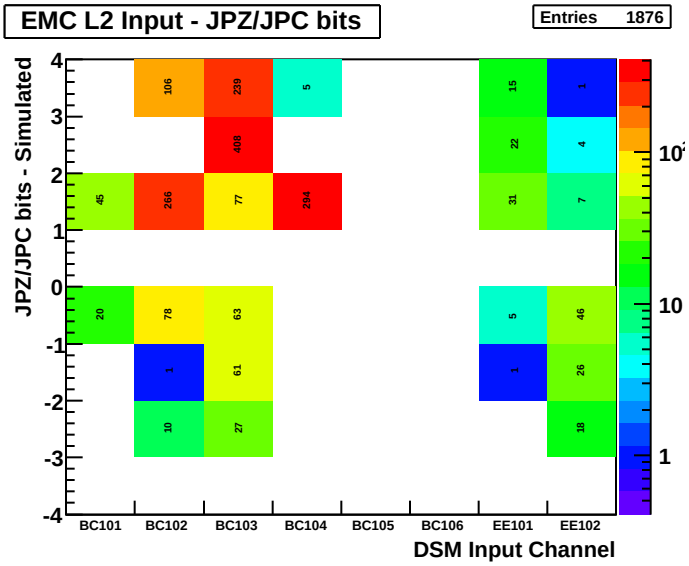

EMC L2 Input - JPX/JPA bits
Entries 305040
JPX/JPA bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

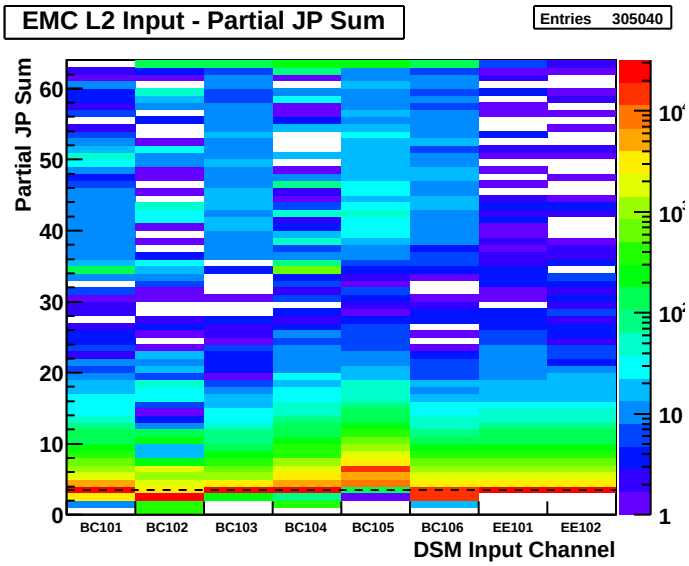

EMC L2 Input - JPX/JPA bits
Entries 2066
JPX/JPA bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

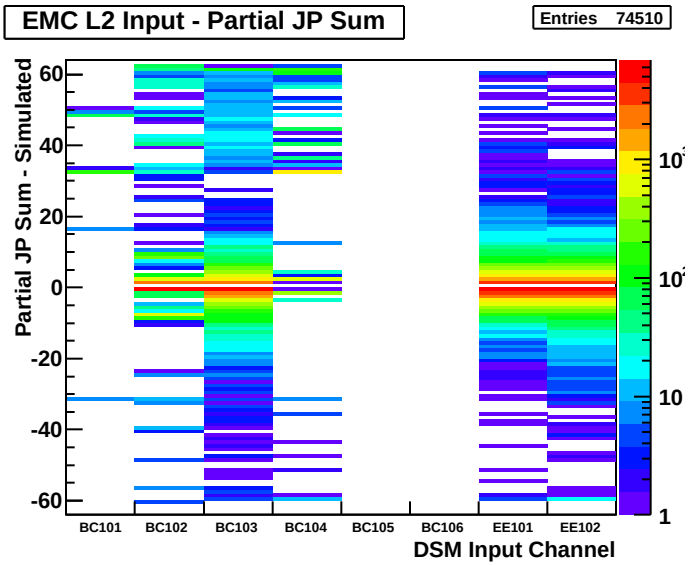

EMC L2 Input - JPY/JPB bits
Entries 305040
JPY/JPB bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

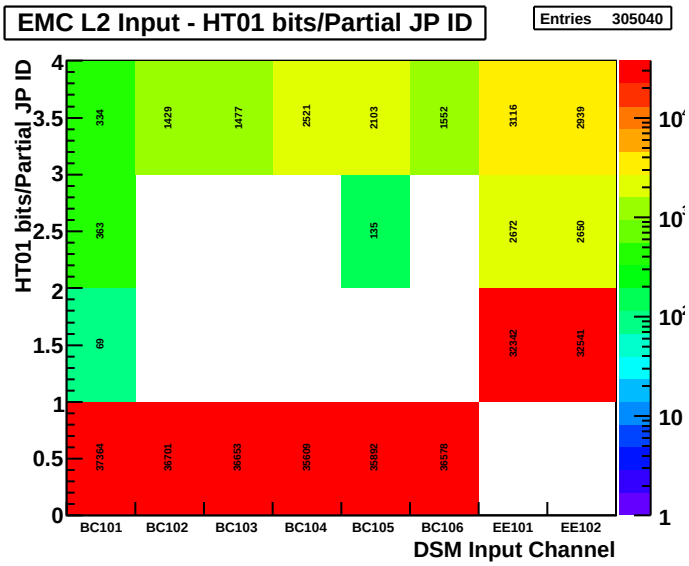

EMC L2 Input - JPY/JPB bits
Entries 1932
JPY/JPB bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

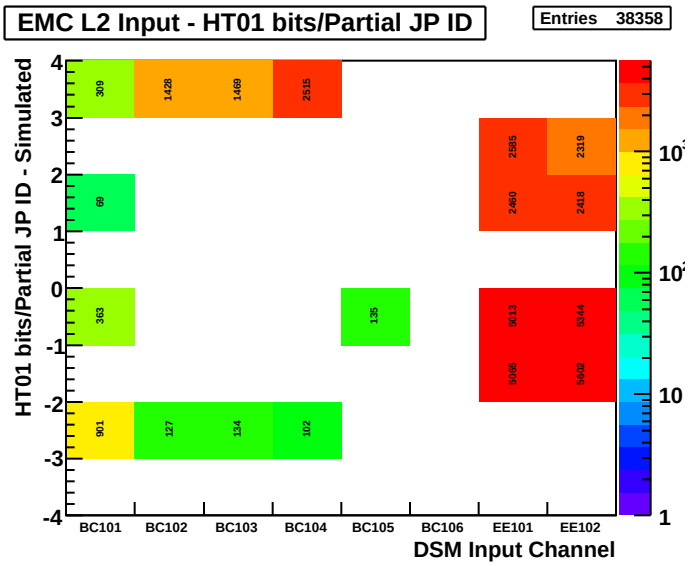

EMC L2 Input - JPZ/JPC bits
Entries 305040
JPZ/JPC bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

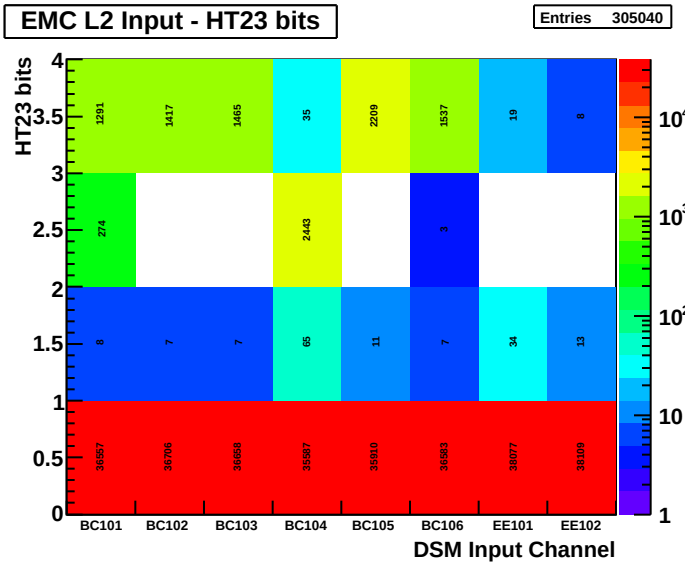

EMC L2 Input - JPZ/JPC bits
Entries 1876
JPZ/JPC bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

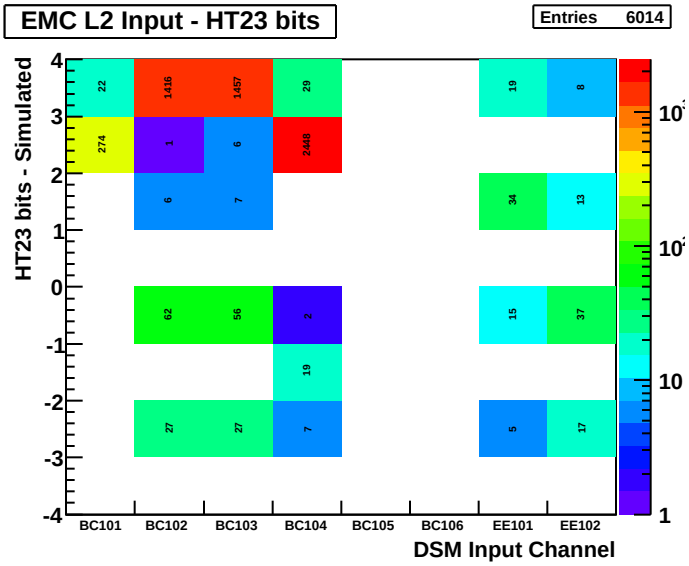

EMC L2 Input - Partial JP Sum
Entries 305040
Partial JP Sum
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

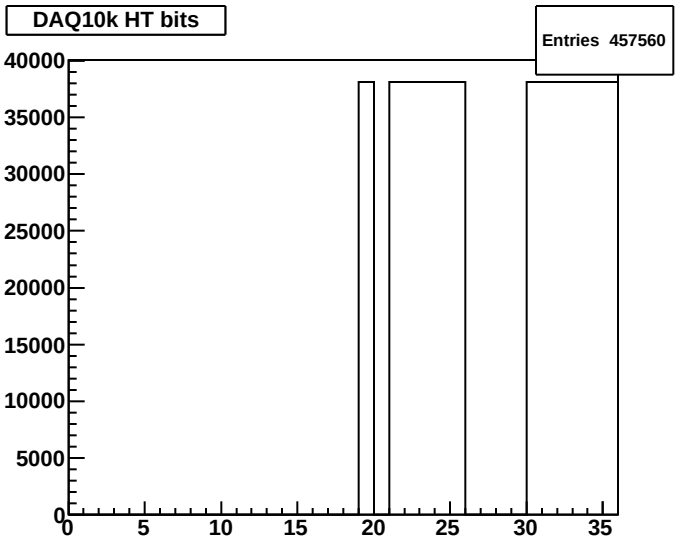

EMC L2 Input - Partial JP Sum
Entries 74510
Partial JP Sum - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

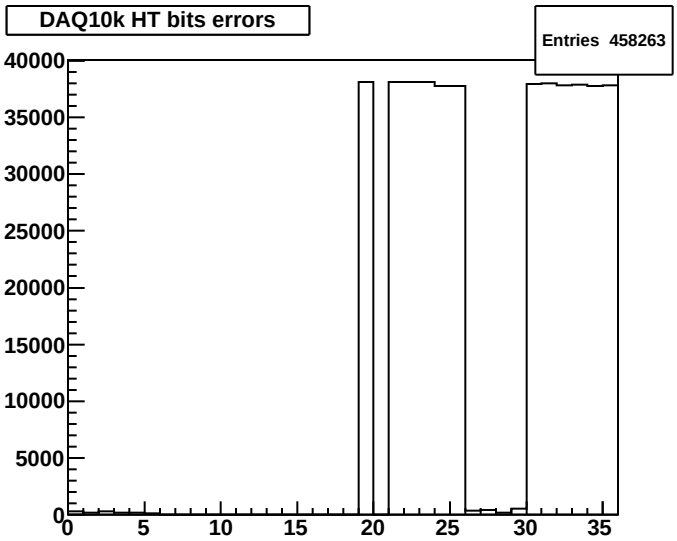

EMC L2 Input - HT01 bits/Partial JP ID
Entries 305040
HT01 bits/Partial JP ID
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

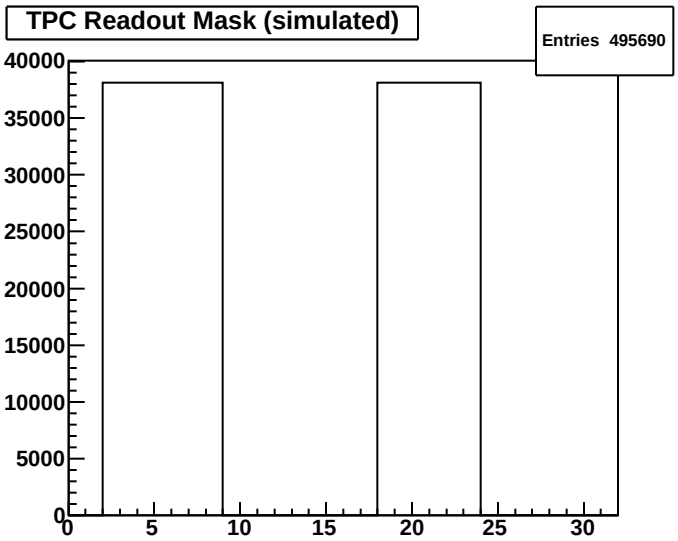

EMC L2 Input - HT01 bits/Partial JP ID
Entries 38358
HT01 bits/Partial JP ID - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

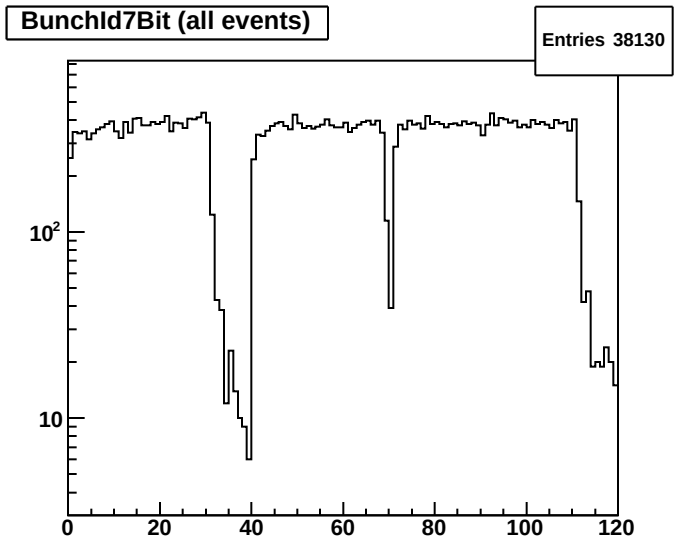

EMC L2 Input - HT23 bits
Entries 305040
HT23 bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

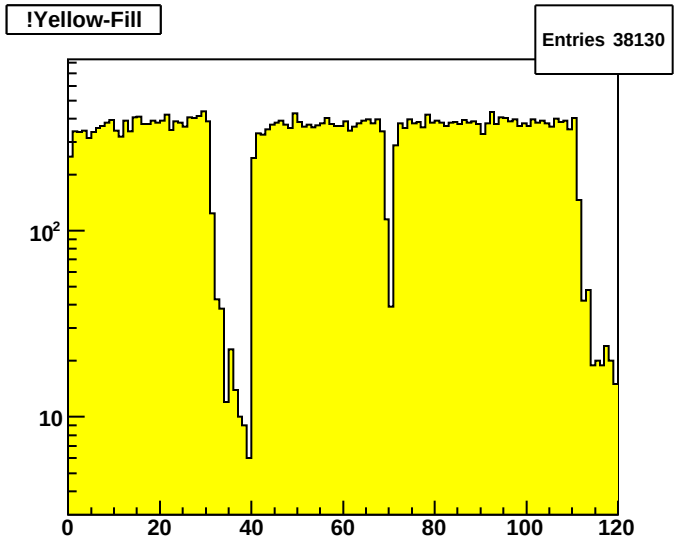

EMC L2 Input - HT23 bits
Entries 6014
HT23 bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

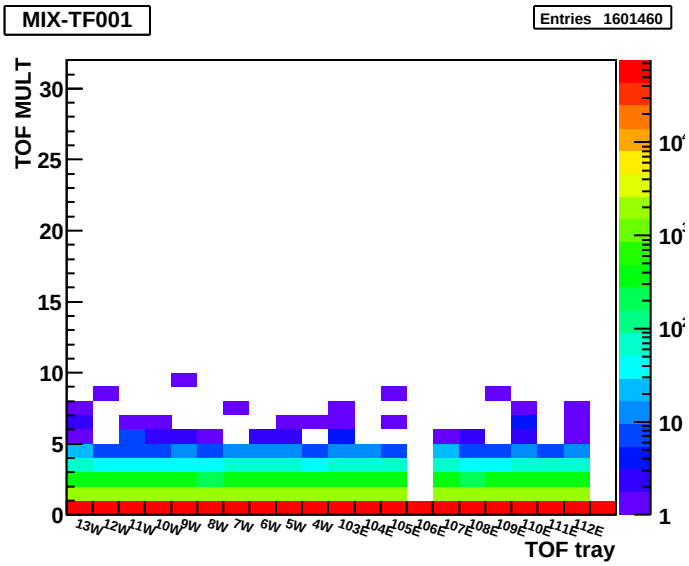

DAQ10k HT bits
Entries 457560
40000
35000
30000
25000
20000
15000
10000
5000
0
0 5 10 15 20 25 30 35

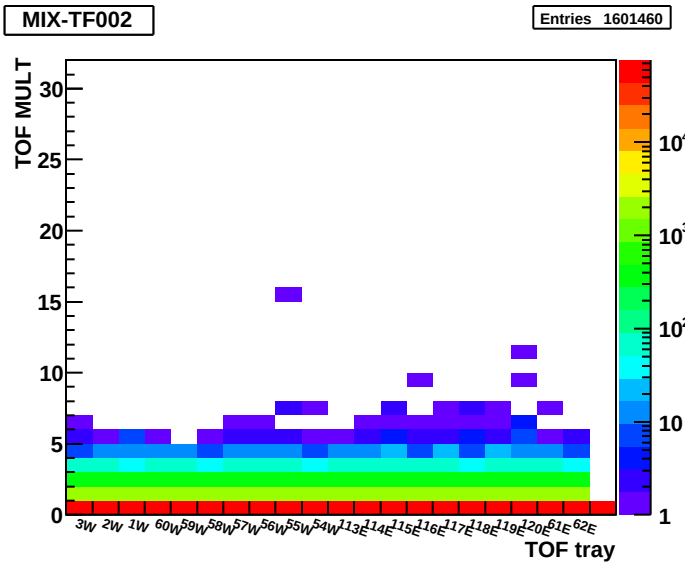

DAQ10k HT bits errors
Entries 458263
40000
35000
30000
25000
20000
15000
10000
5000
0
0 5 10 15 20 25 30 35

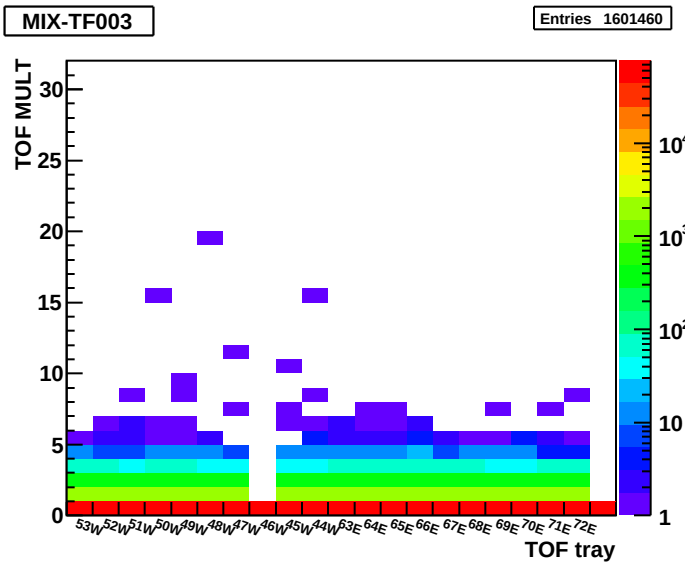

TPC Readout Mask (simulated)
Entries 495690
40000
35000
30000
25000
20000
15000
10000
5000
0
0 5 10 15 20 25 30

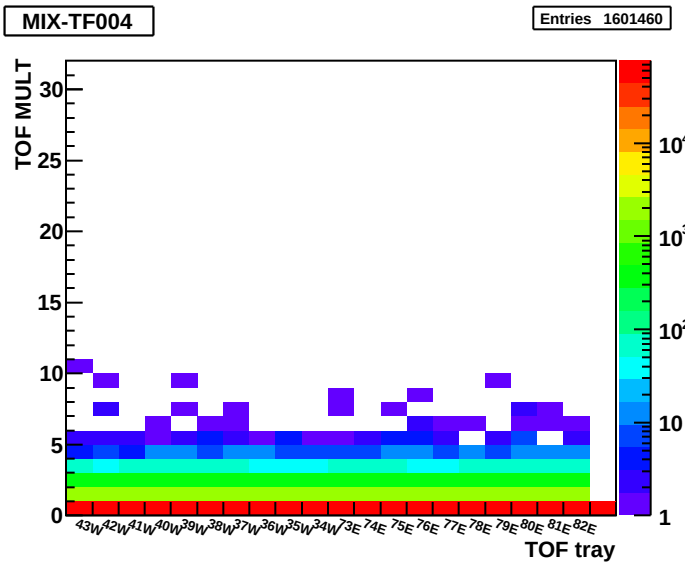

BunchId7Bit (all events)
Entries 38130
10^2
10
0 20 40 60 80 100 120

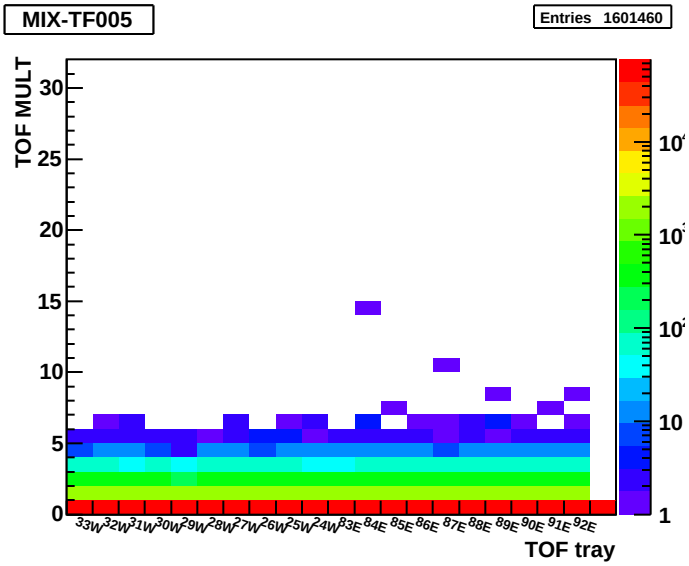

!Yellow-Fill
Entries 38130
10^2
10
0 20 40 60 80 100 120

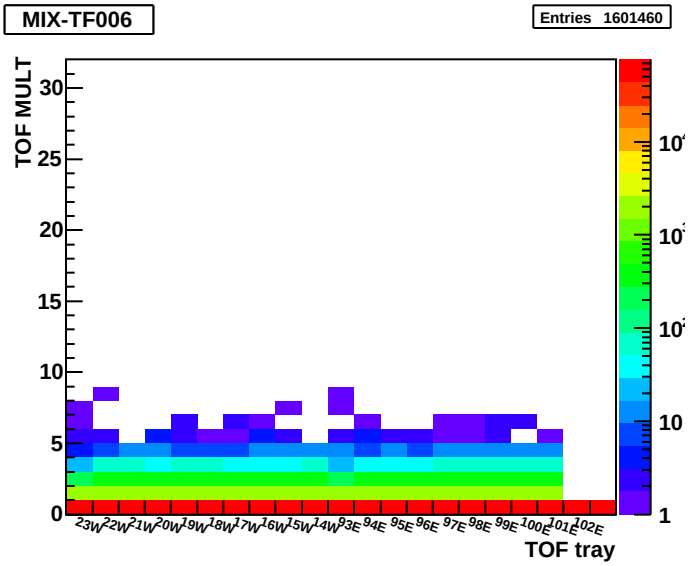

MIX-TF001
Entries 1601460
TOF MULT
TOF tray

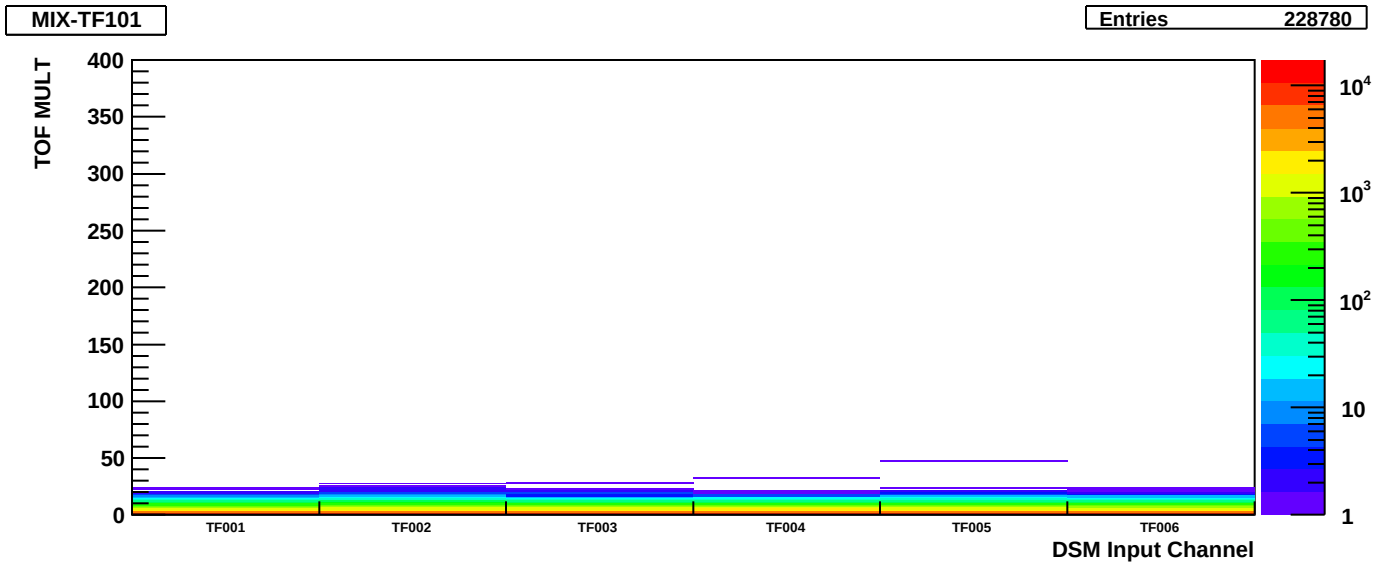

MIX-TF002
Entries 1601460
TOF MULT
TOF tray

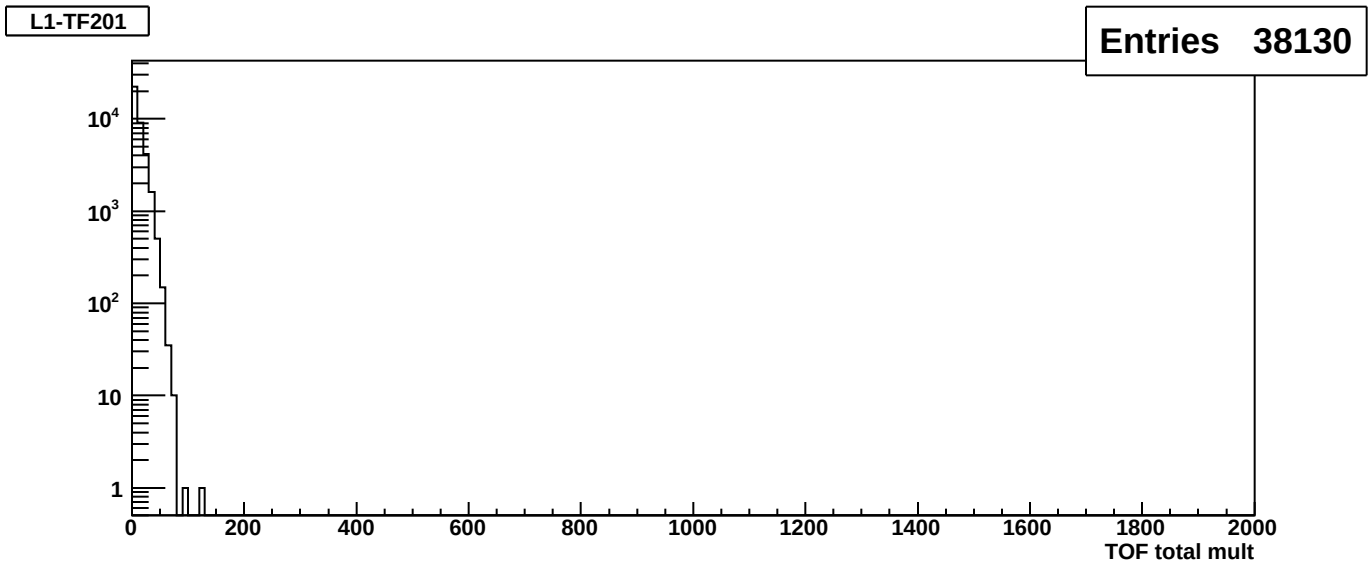

MIX-TF003
Entries 1601460
TOF MULT
TOF tray

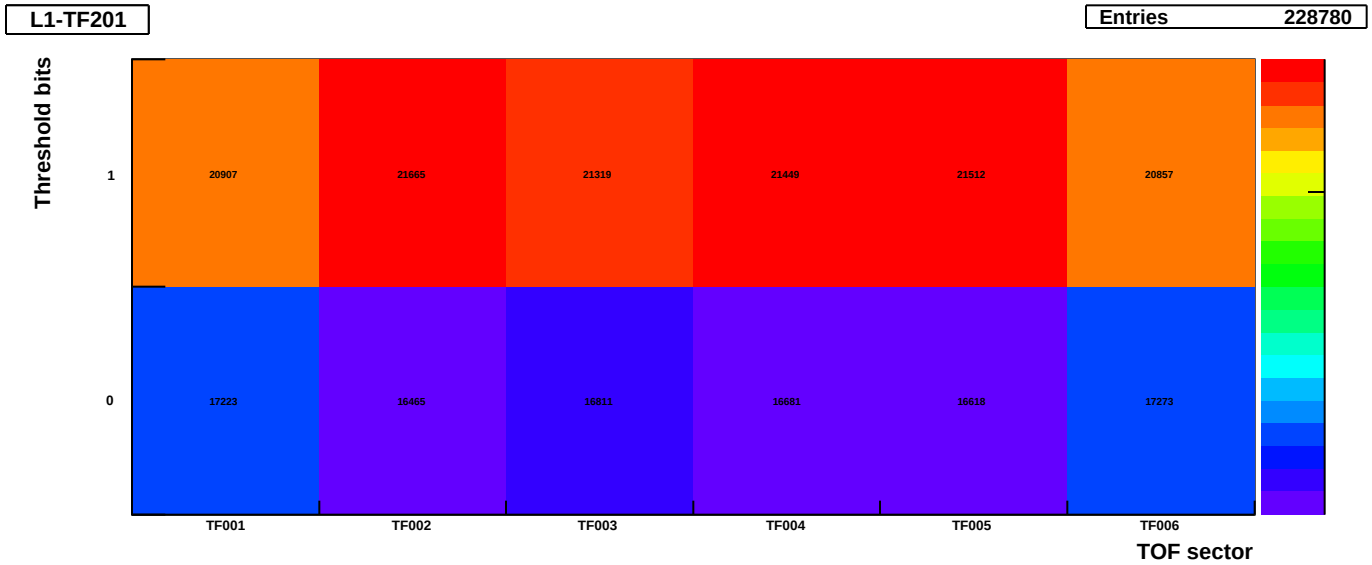

MIX-TF004
Entries 1601460
TOF MULT
TOF tray

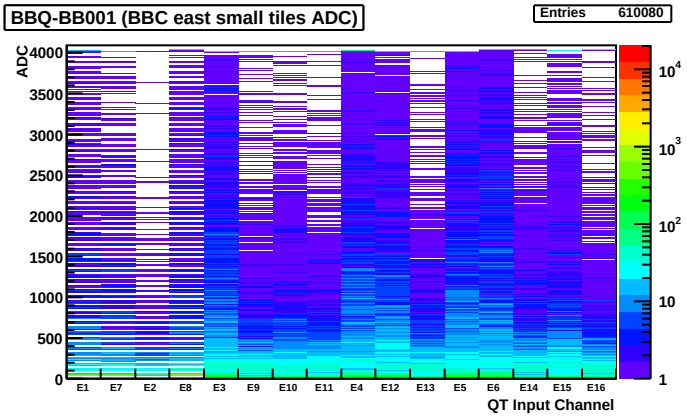

MIX-TF005
Entries 1601460
TOF MULT
TOF tray

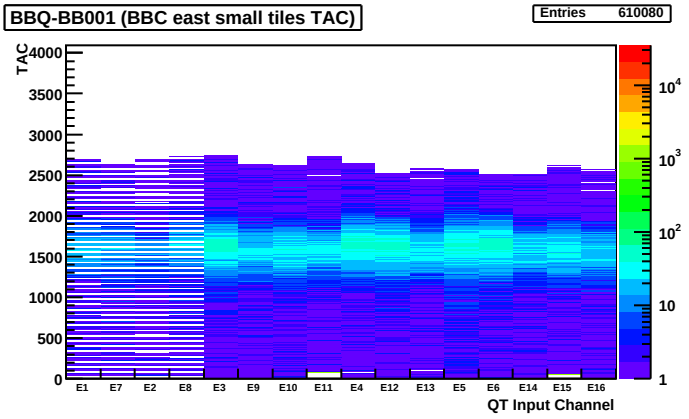

MIX-TF006
Entries 1601460
TOF MULT
TOF tray

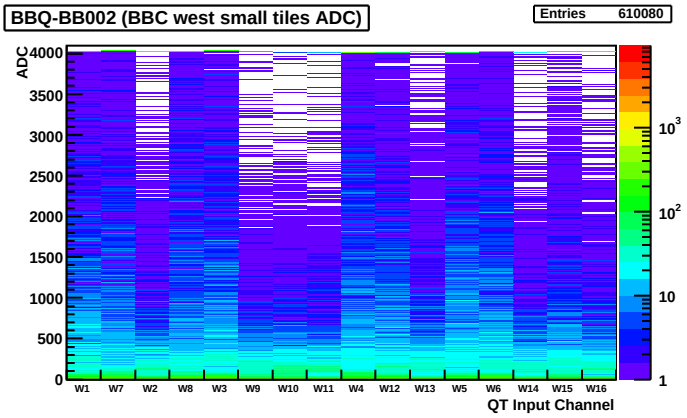

MIX-TF101
Entries 228780
TOF MULT
400
350
300
250
200
150
100
50
0
TF001
TF002
TF003
TF004
TF005
TF006
DSM Input Channel
10^4
10^3
10^2
10
1

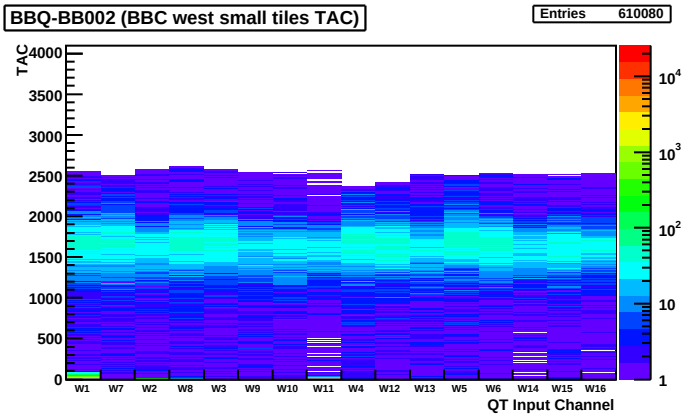

L1-TF201
Entries 38130
10^4
10^3
10^2
10
1
0
200
400
600
800
1000
1200
1400
1600
1800
2000
TOF total mult

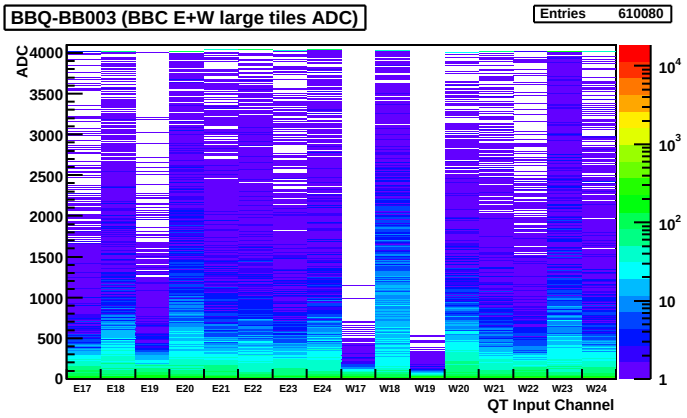

L1-TF201
Entries 228780
Threshold bits
1
0
20907
21665
21319
21449
21512
20857
17223
16465
16811
16681
16618
17273
TF001
TF002
TF003
TF004
TF005
TF006
TOF sector

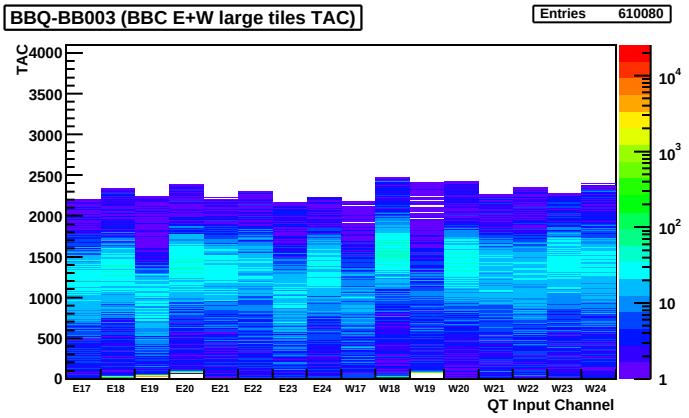

BBQ-BB001 (BBC east small tiles ADC)
Entries 610080
ADC
QT Input Channel

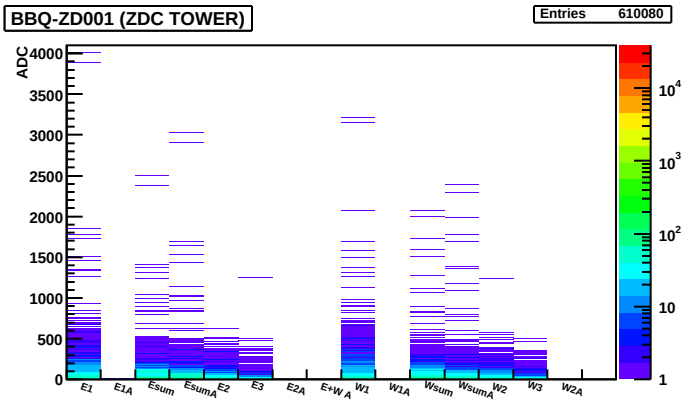

BBQ-BB001 (BBC east small tiles TAC)
Entries 610080
TAC
QT Input Channel

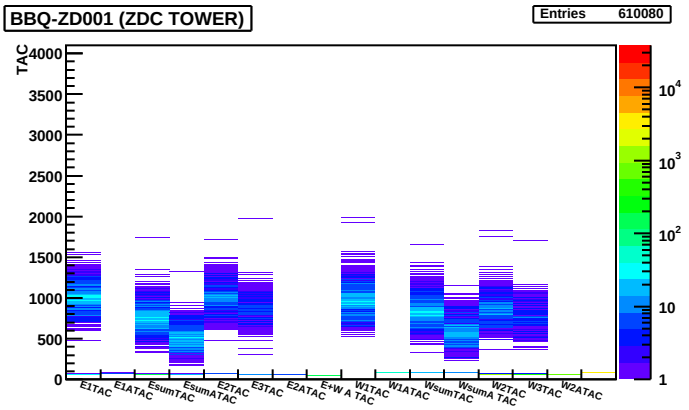

BBQ-BB002 (BBC west small tiles ADC)
Entries 610080
ADC
QT Input Channel

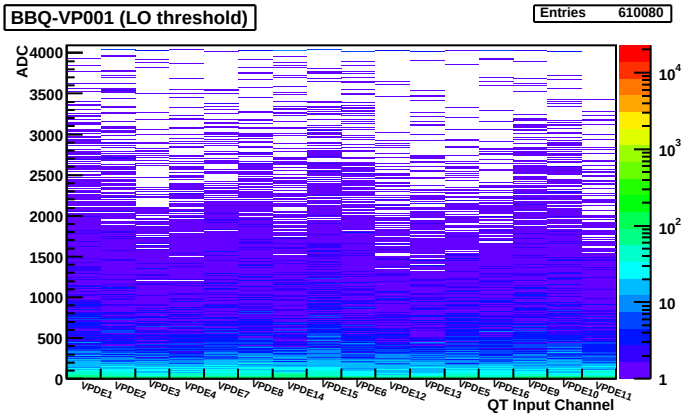

BBQ-BB002 (BBC west small tiles TAC)
Entries 610080
TAC
QT Input Channel

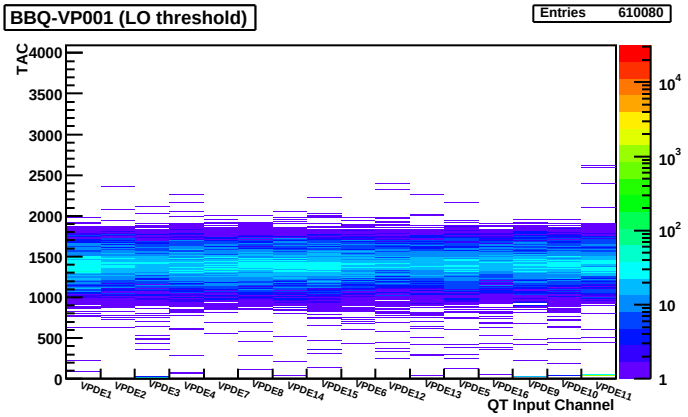

BBQ-BB003 (BBC E+W large tiles ADC)
Entries 610080
ADC
QT Input Channel

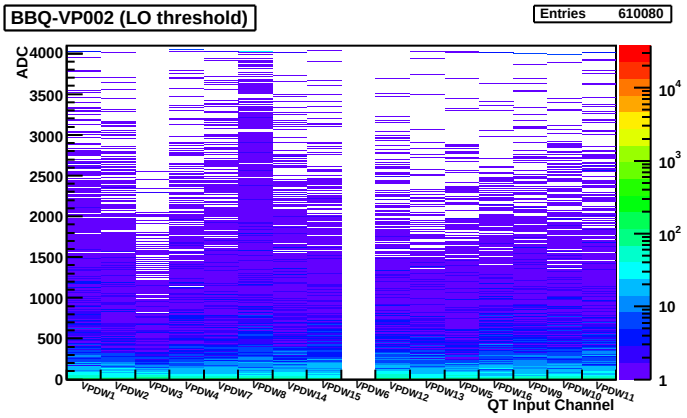

BBQ-BB003 (BBC E+W large tiles TAC)
Entries 610080
TAC
QT Input Channel

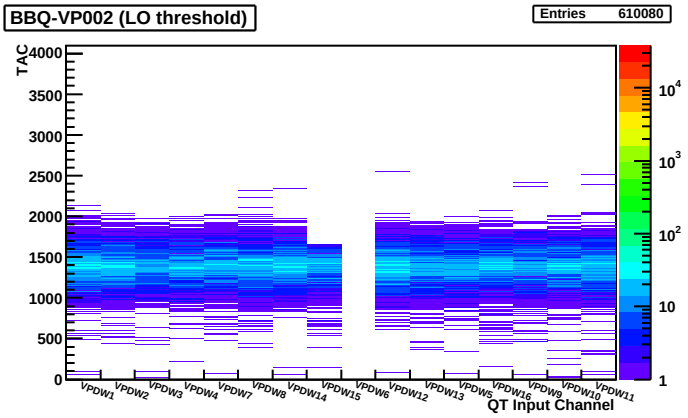

BBQ-ZD001 (ZDC TOWER)
Entries 610080
ADC

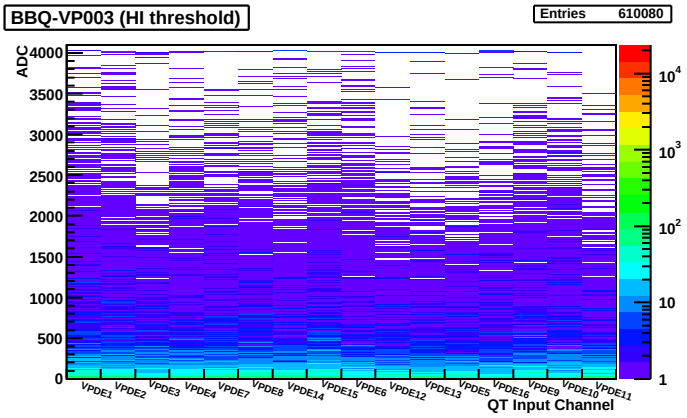

BBQ-ZD001 (ZDC TOWER)
Entries 610080
TAC

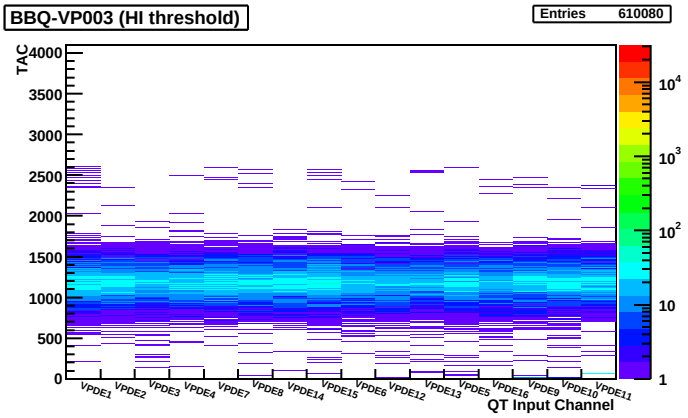

BBQ-VP001 (LO threshold)
Entries 610080
ADC
QT Input Channel

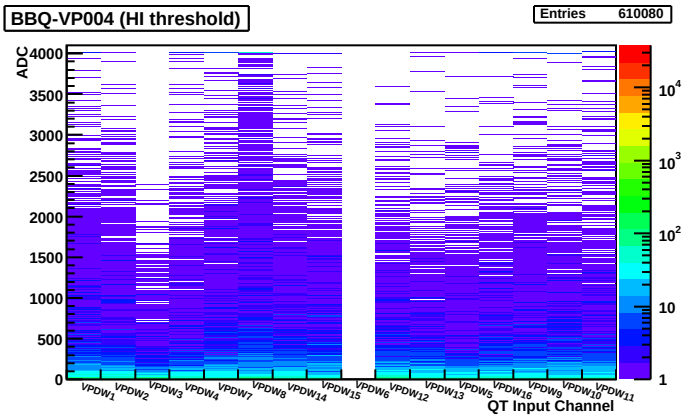

BBQ-VP001 (LO threshold)
Entries 610080
TAC
QT Input Channel

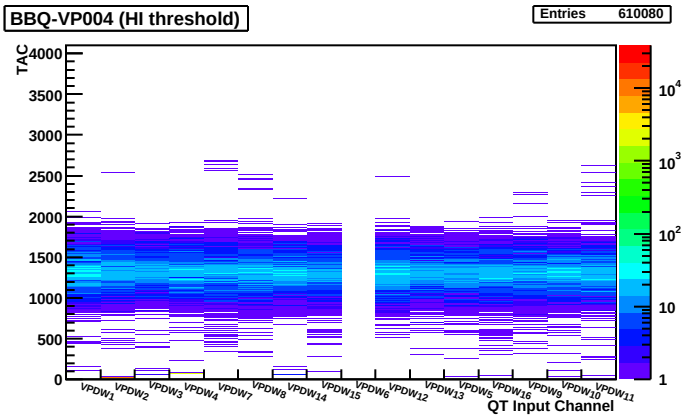

BBQ-VP002 (LO threshold)
Entries 610080
ADC
QT Input Channel

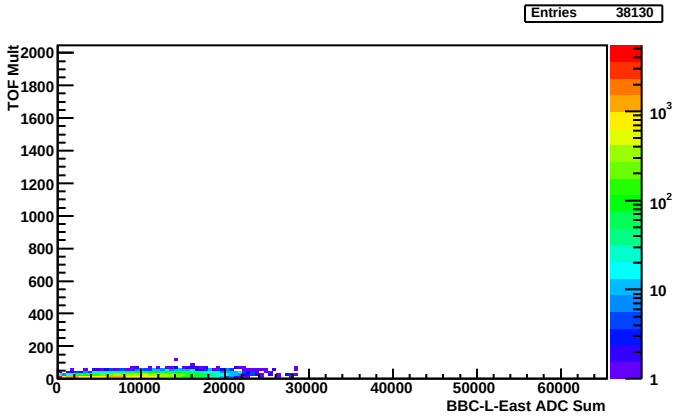

BBQ-VP002 (LO threshold)
Entries 610080
TAC
QT Input Channel

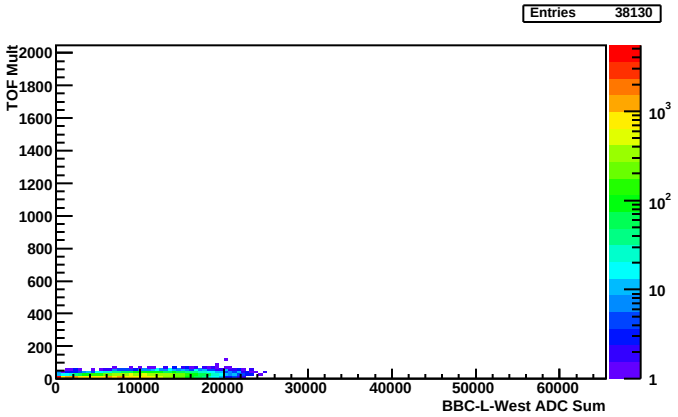

BBQ-VP003 (HI threshold)
Entries 610080
ADC
QT Input Channel

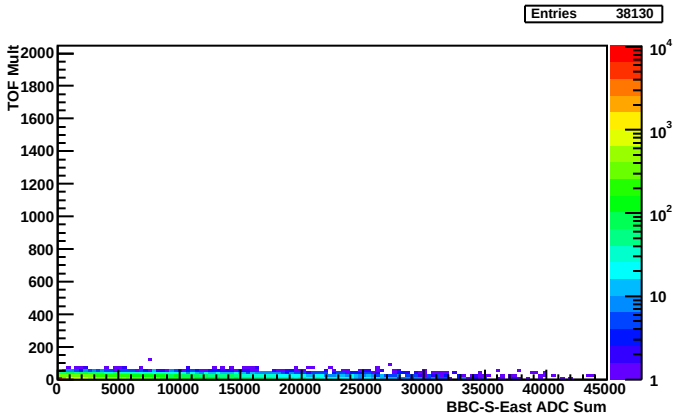

BBQ-VP003 (HI threshold)
Entries 610080
TAC
QT Input Channel

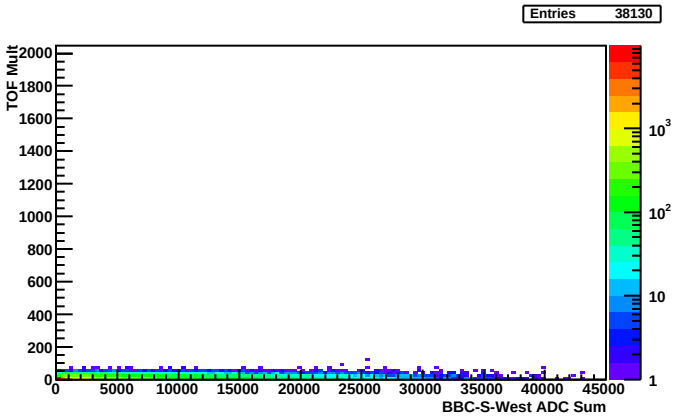

BBQ-VP004 (HI threshold)
Entries 610080
ADC
QT Input Channel

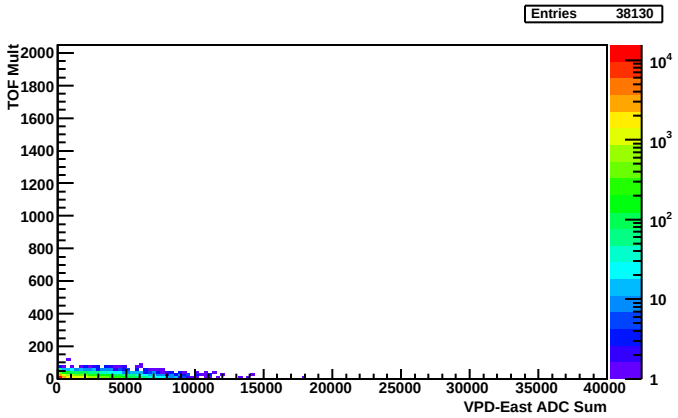

BBQ-VP004 (HI threshold)
Entries 610080
TAC
QT Input Channel

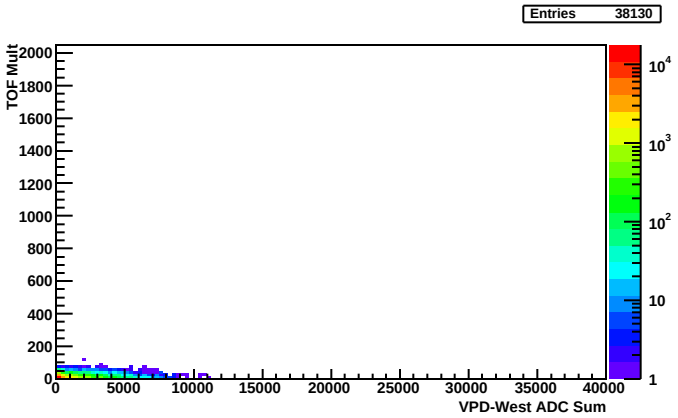

Entries 38130
TOF Mult
BBC-L-East ADC Sum

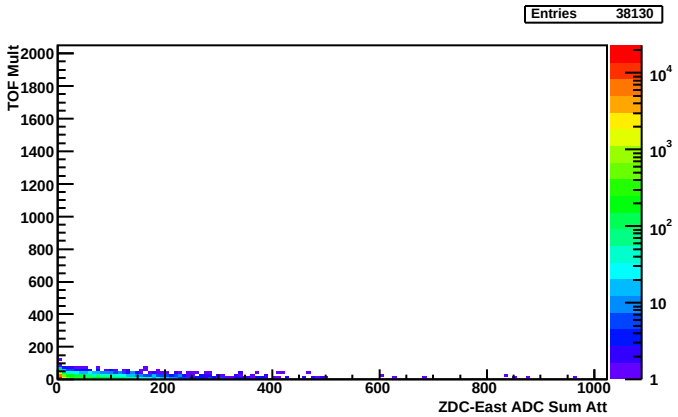

Entries 38130
TOF Mult
BBC-L-West ADC Sum

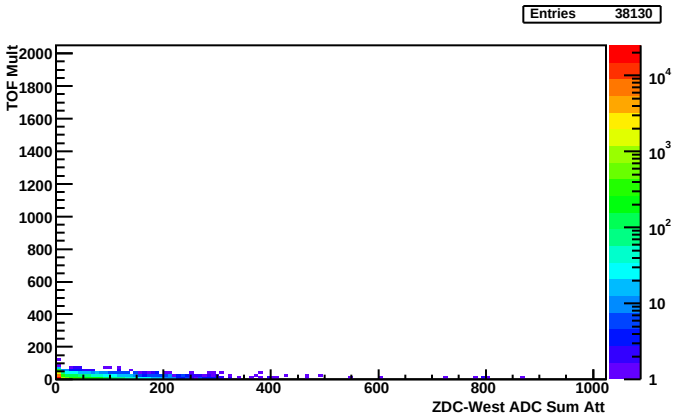

Entries 38130
TOF Mult
BBC-S-East ADC Sum

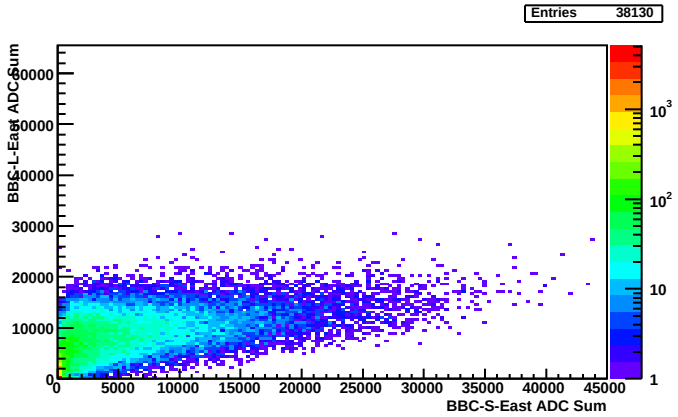

Entries 38130
TOF Mult
BBC-S-West ADC Sum

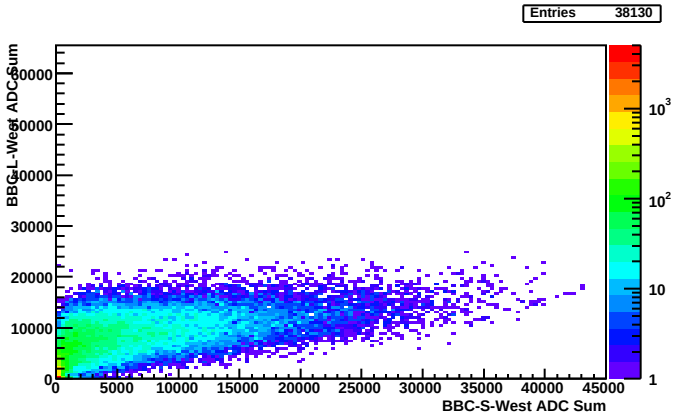

Entries 38130
TOF Mult
VPD-East ADC Sum

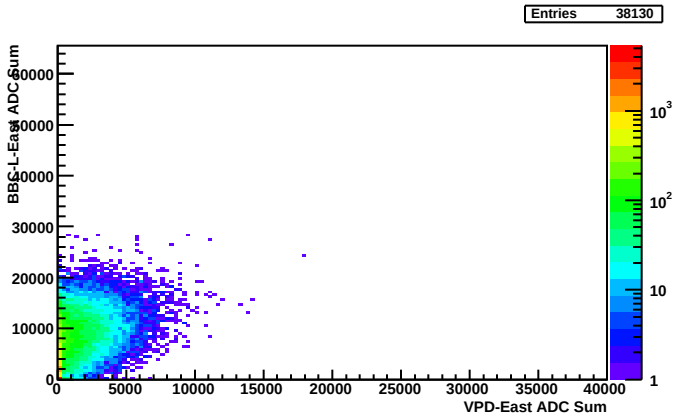

Entries 38130
TOF Mult
VPD-West ADC Sum

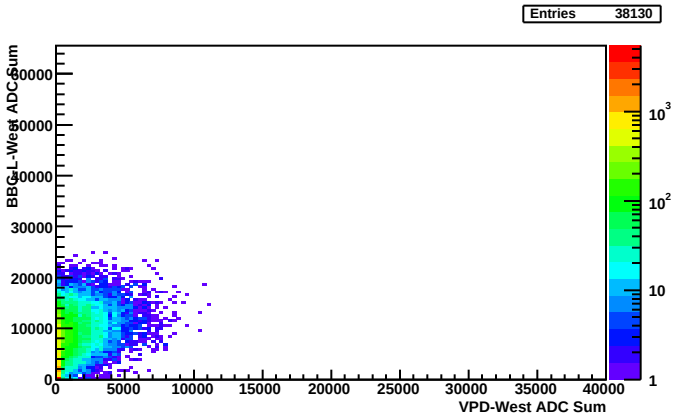

Entries 38130
TOF Mult
ZDC-East ADC Sum Att

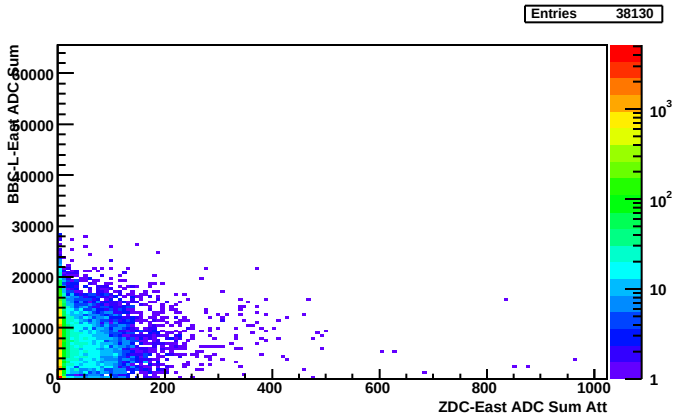

Entries 38130
TOF Mult
ZDC-West ADC Sum Att

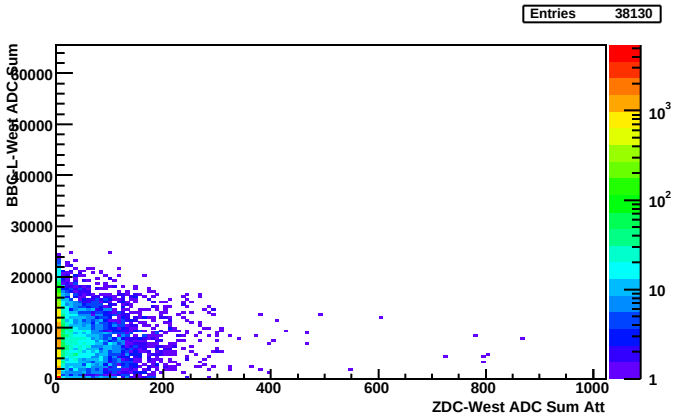

Entries 38130
BBC-L-East ADC Sum
BBC-S-East ADC Sum

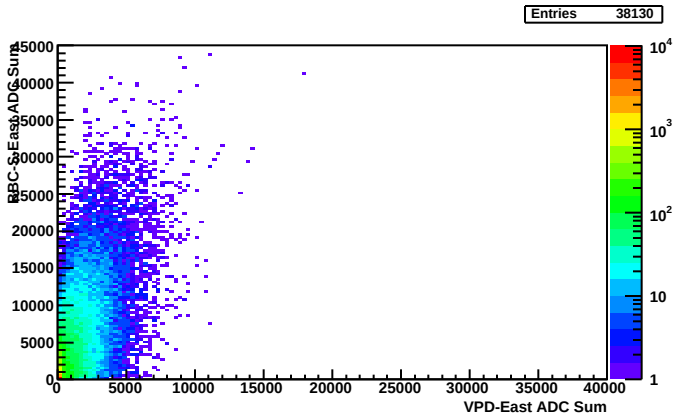

Entries 38130
BBC-L-West ADC Sum
BBC-S-West ADC Sum

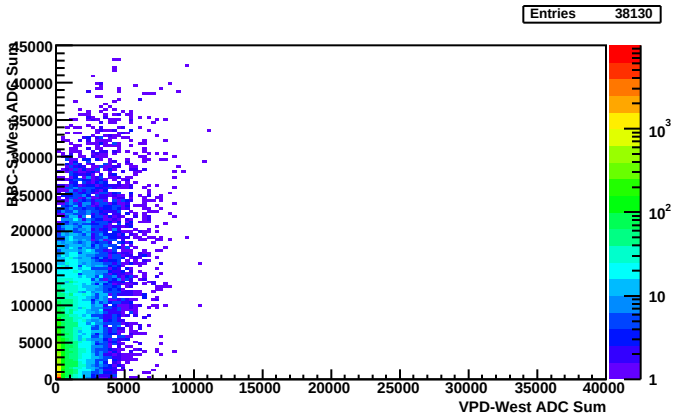

Entries 38130
BBC-L-East ADC Sum
VPD-East ADC Sum

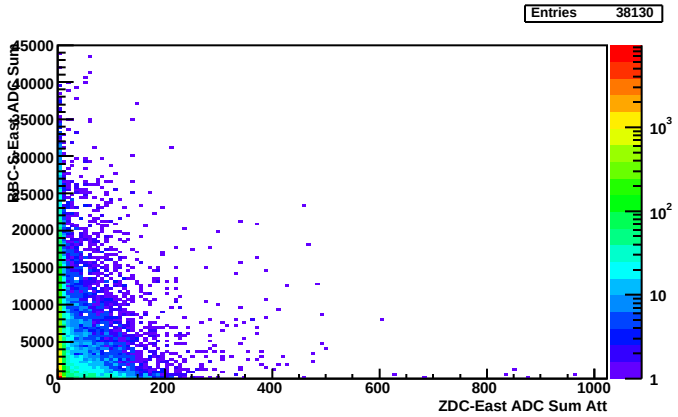

Entries 38130
BBC-L-West ADC Sum
VPD-West ADC Sum

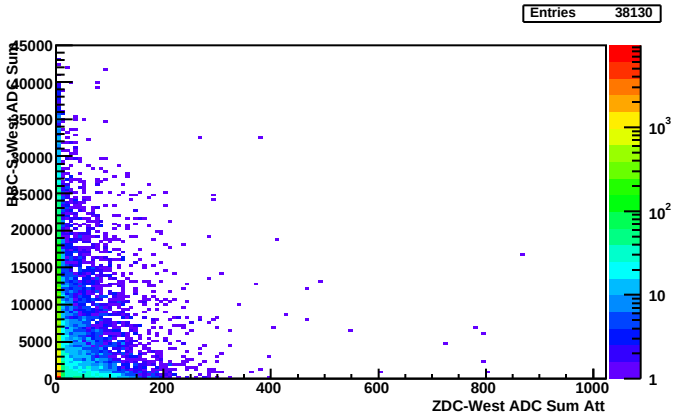

Entries 38130
BBC-L-East ADC Sum
ZDC-East ADC Sum Att

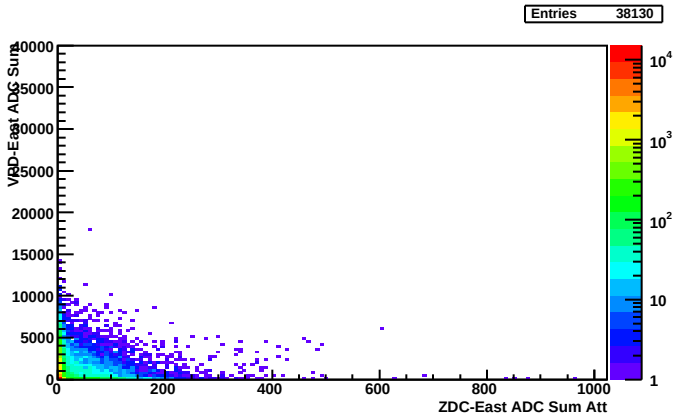

Entries 38130
BBC-L-West ADC Sum
ZDC-West ADC Sum Att

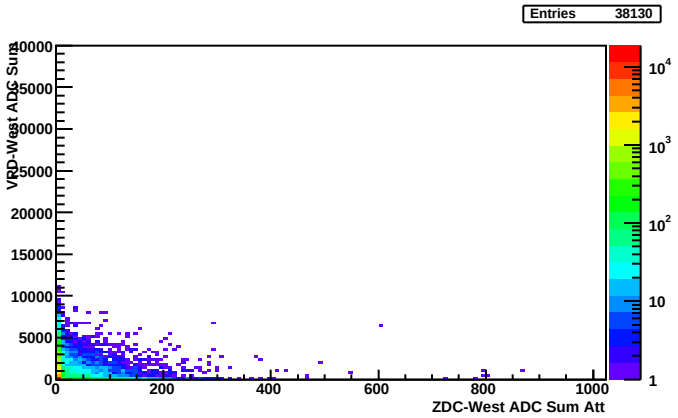

Entries 38130
BBC-S-East ADC Sum
VPD-East ADC Sum

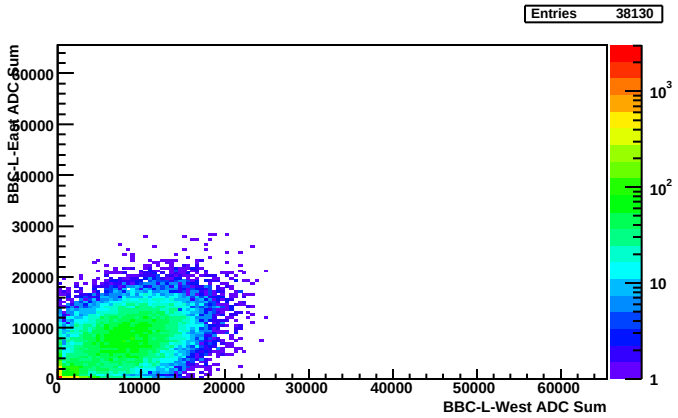

Entries 38130
BBC-S-West ADC Sum
VPD-West ADC Sum

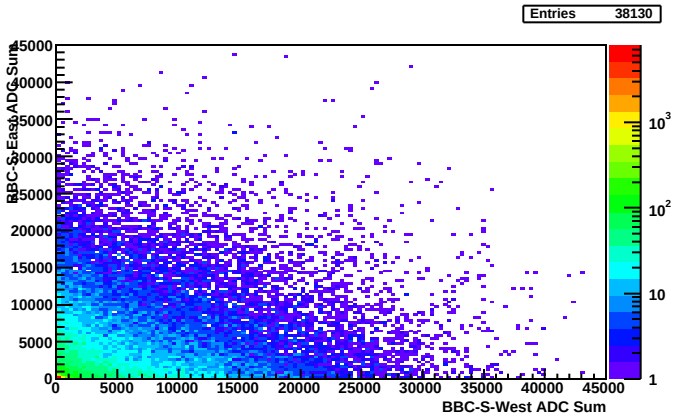

Entries 38130
BBC-S-East ADC Sum
ZDC-East ADC Sum Att

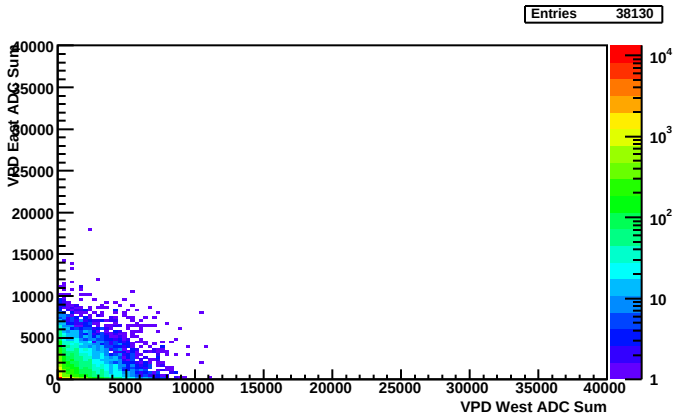

Entries 38130
BBC-S-West ADC Sum
ZDC-West ADC Sum Att

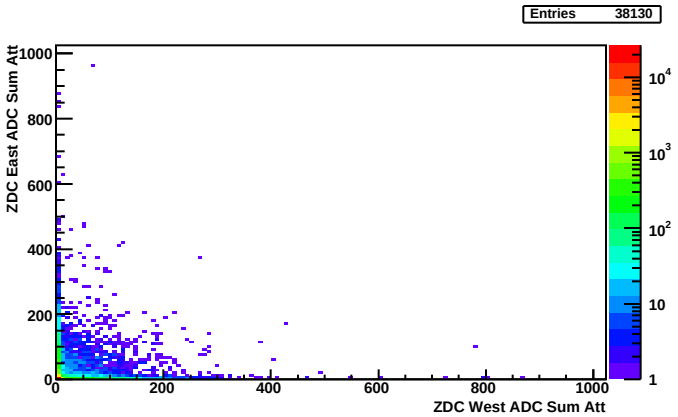

Entries 38130
VPD-East ADC Sum
ZDC-East ADC Sum Att

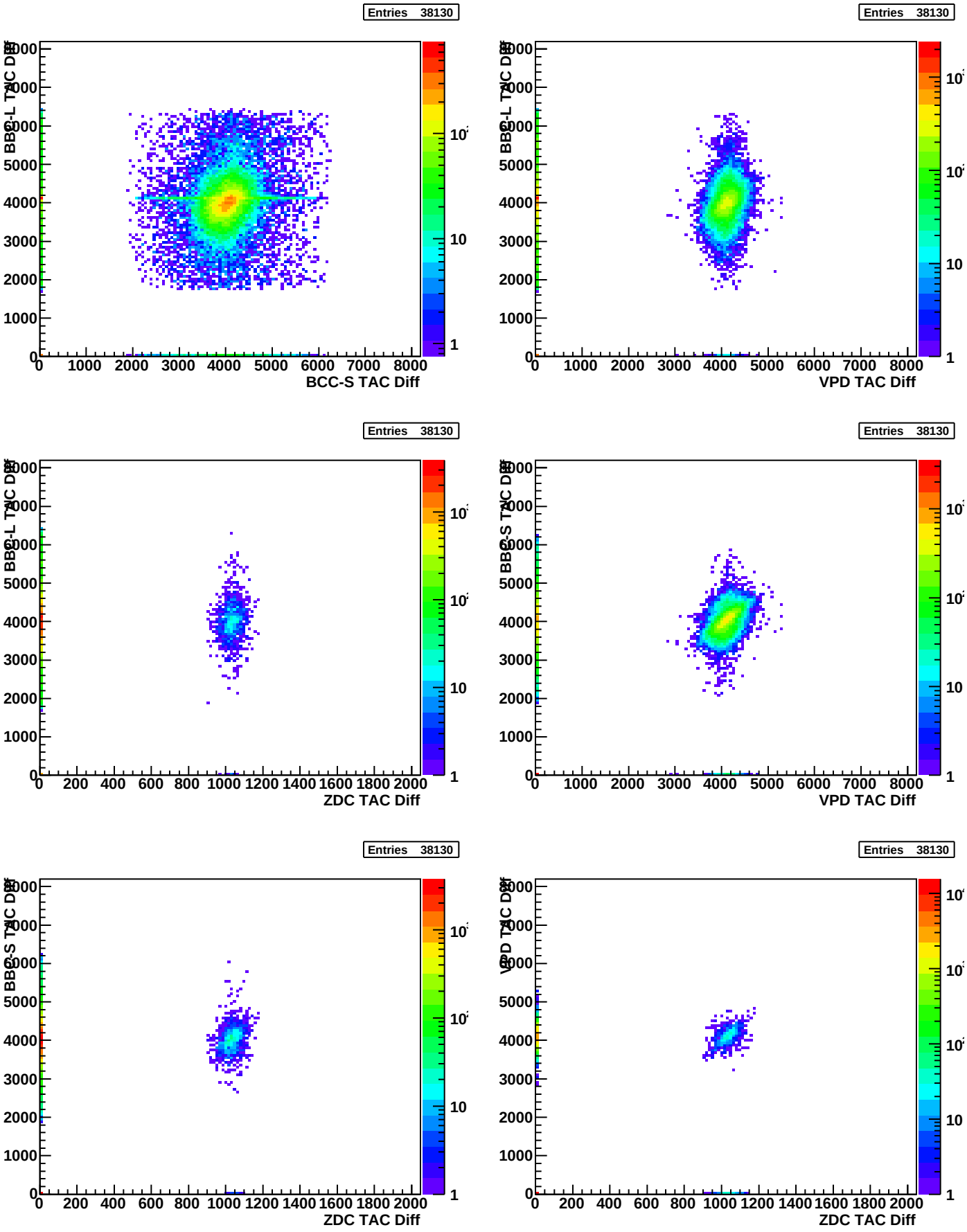

Entries 38130
VPD-West ADC Sum
ZDC-West ADC Sum Att

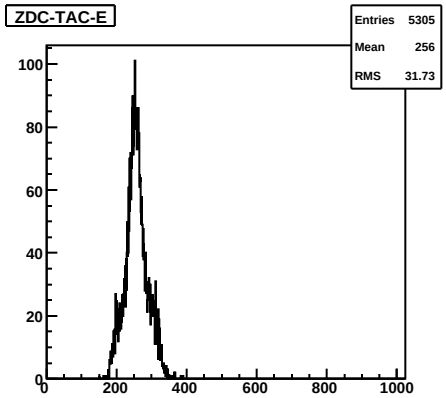

Entries 38130
BBC-L-East ADC Sum
BBC-L-West ADC Sum

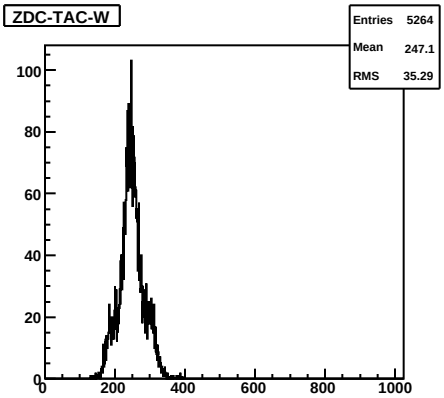

Entries 38130
BBC-S-East ADC Sum
BBC-S-West ADC Sum

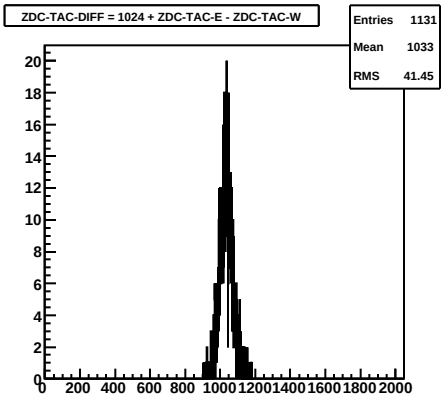

Entries 38130
VPD East ADC Sum
VPD West ADC Sum

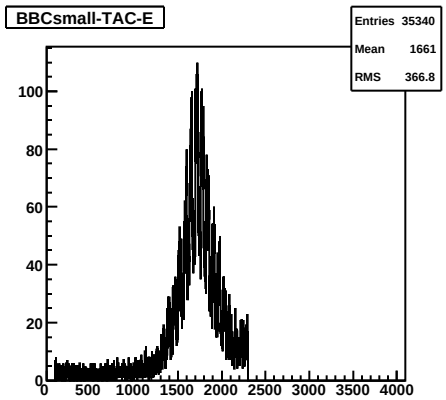

Entries 38130
ZDC East ADC Sum Att
ZDC West ADC Sum Att

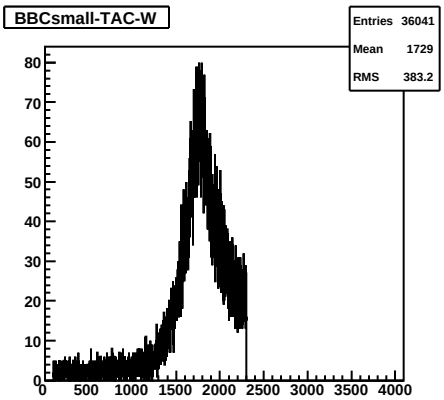

Entries 38130
BBC-L TAC Diff
BCC-S TAC Diff
Entries 38130
BBC-L TAC Diff
VPD TAC Diff
Entries 38130
BBC-L TAC Diff
ZDC TAC Diff
Entries 38130
BBC-S TAC Diff
VPD TAC Diff
Entries 38130
BBC-S TAC Diff
ZDC TAC Diff
Entries 38130
VPD TAC Diff
ZDC TAC Diff

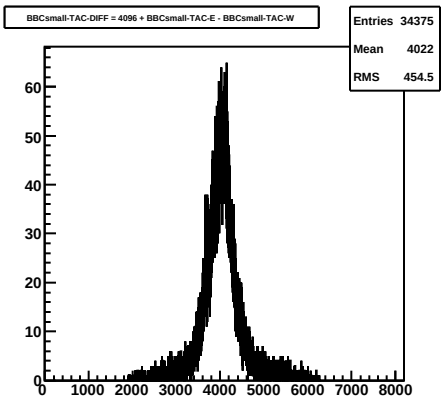

ZDC-TAC-E
Entries 5305
Mean 256
RMS 31.73

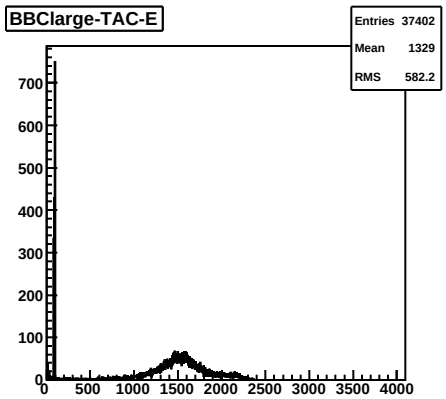

ZDC-TAC-W
Entries 5264
Mean 247.1
RMS 35.29

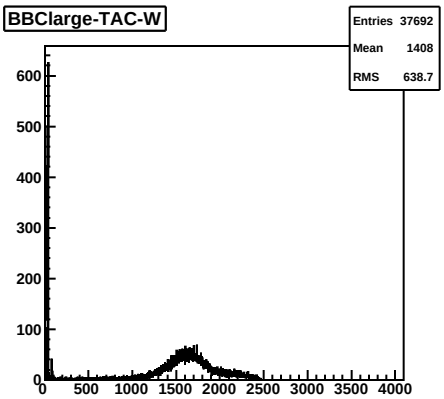

ZDC-TAC-DIFF = 1024 + ZDC-TAC-E - ZDC-TAC-W
Entries 1131
Mean 1033
RMS 41.45

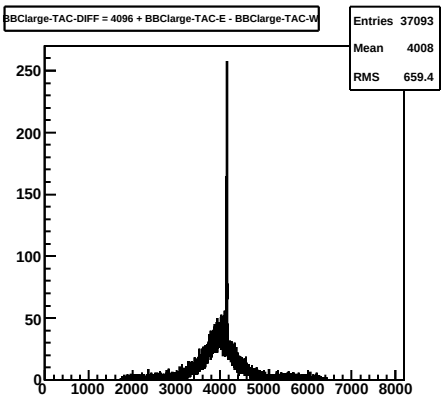

BBCsmall-TAC-E
Entries 35340
Mean 1661
RMS 366.8

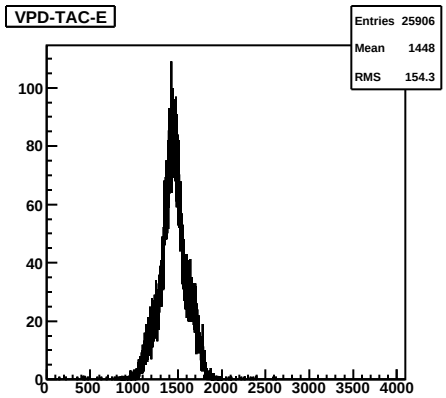

BBCsmall-TAC-W
Entries 36041
Mean 1729
RMS 383.2

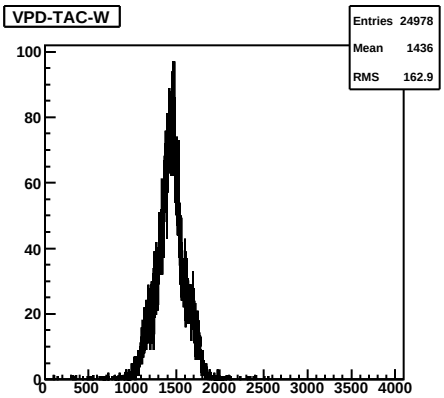

BBCsmall-TAC-DIFF = 4096 + BBCsmall-TAC-E - BBCsmall-TAC-W
Entries 34375
Mean 4022
RMS 454.5

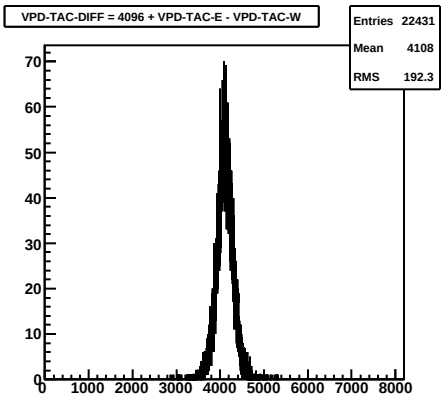

BBClarge-TAC-E
Entries 37402
Mean 1329
RMS 582.2

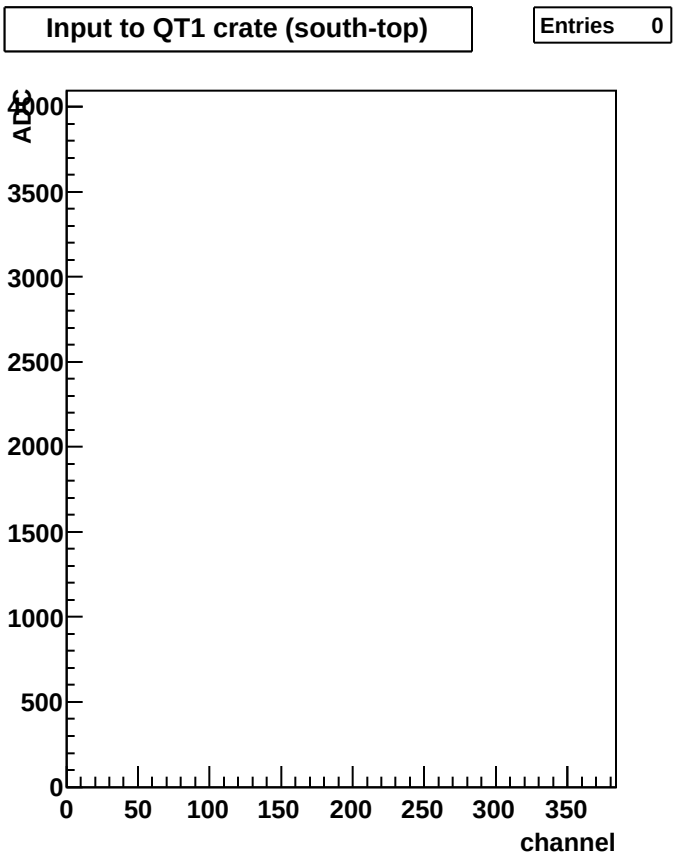

BBClarge-TAC-W
Entries 37692
Mean 1408
RMS 638.7

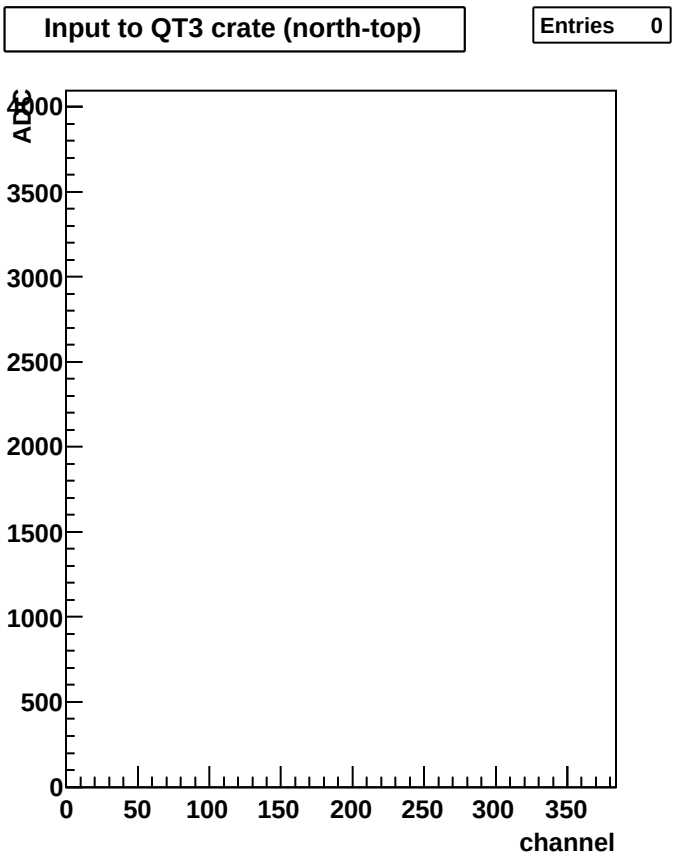

BBClarge-TAC-DIFF = 4096 + BBClarge-TAC-E - BBClarge-TAC-W
Entries 37093
Mean 4008
RMS 659.4

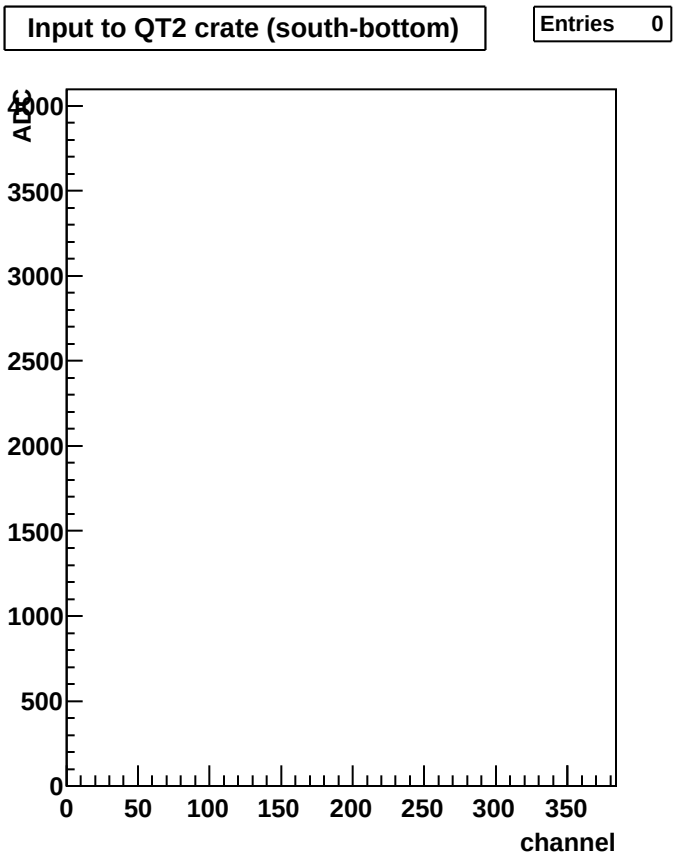

VPD-TAC-E
Entries 25906
Mean 1448
RMS 154.3

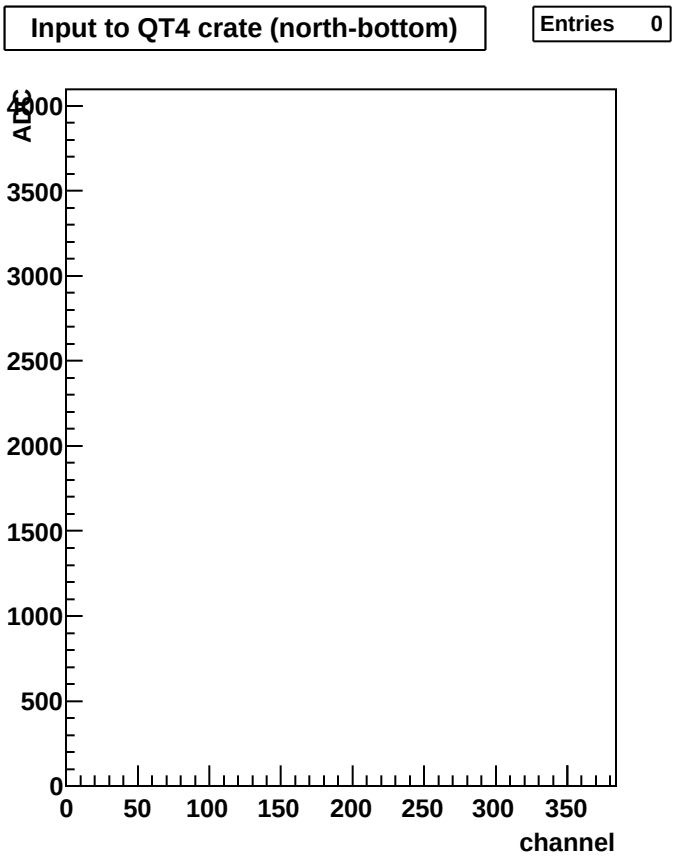

VPD-TAC-W
Entries 24978
Mean 1436
RMS 162.9

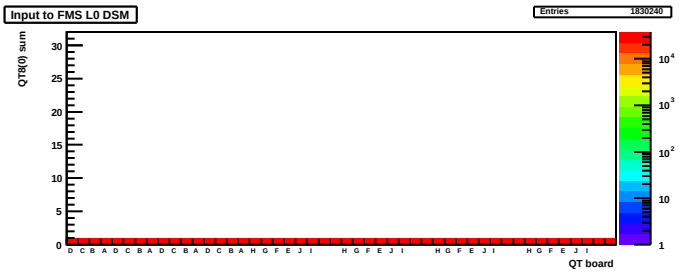

VPD-TAC-DIFF = 4096 + VPD-TAC-E - VPD-TAC-W
Entries 22431
Mean 4108
RMS 192.3

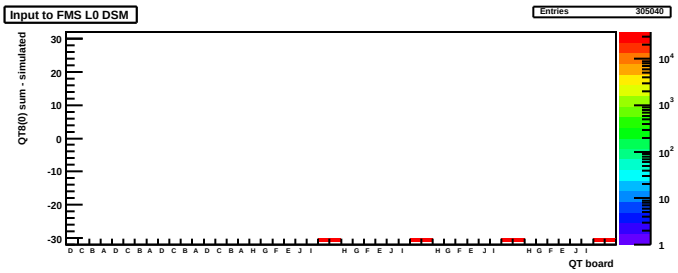

Input to QT1 crate (south-top)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

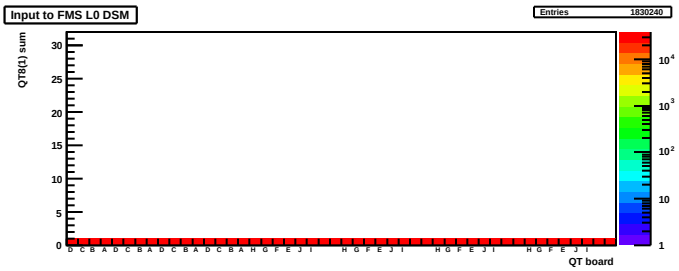

Input to QT3 crate (north-top)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

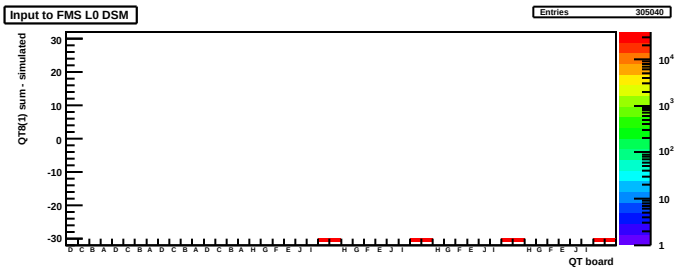

Input to QT2 crate (south-bottom)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

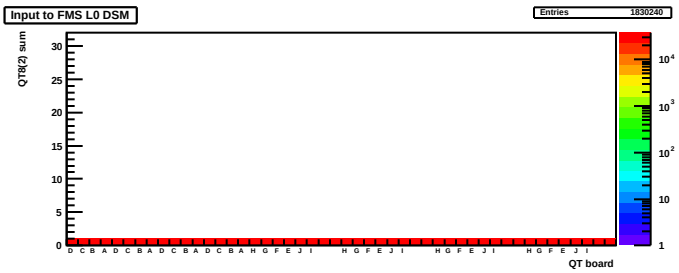

Input to QT4 crate (north-bottom)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

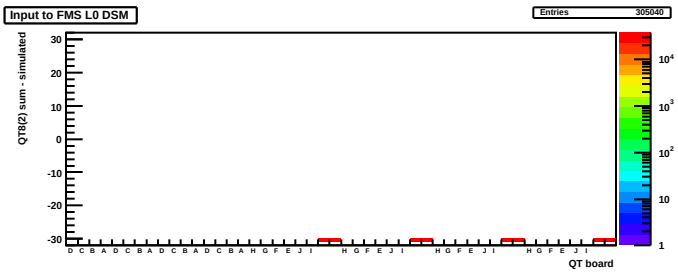

Input to FMS L0 DSM
Entries 1830240
QT8(0) sum
QT board

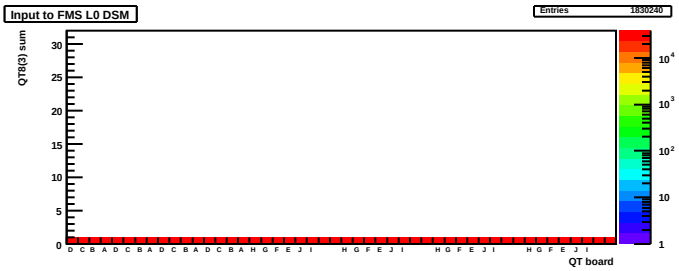

Input to FMS L0 DSM
Entries 305040
QT8(0) sum - simulated
QT board

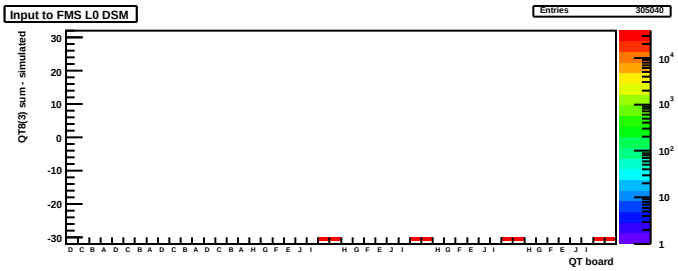

Input to FMS L0 DSM
Entries 1830240
QT8(1) sum
QT board

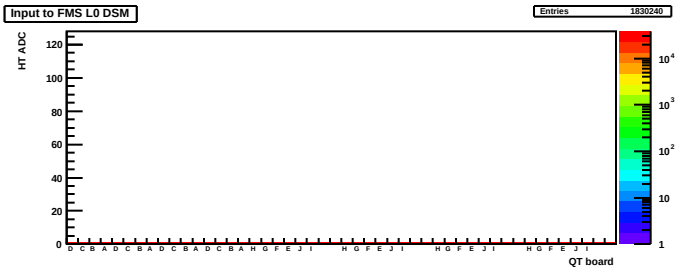

Input to FMS L0 DSM
Entries 305040
QT8(1) sum - simulated
QT board

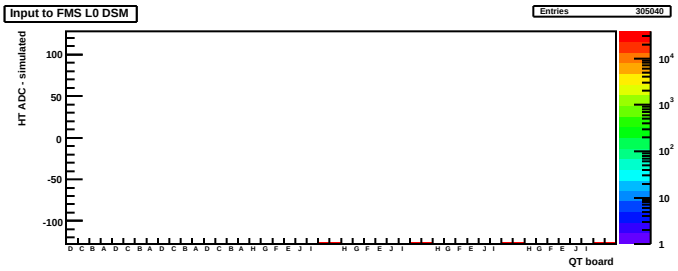

Input to FMS L0 DSM
Entries 1830240
QT8(2) sum
QT board

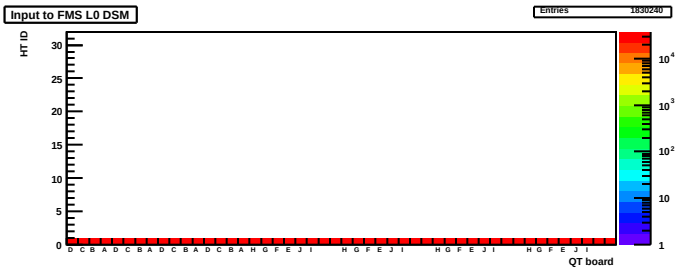

Input to FMS L0 DSM
Entries 305040
QT8(2) sum - simulated
QT board

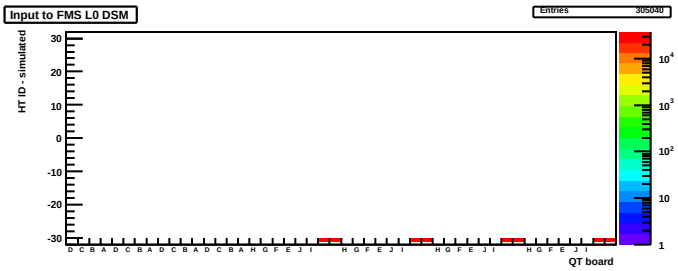

Input to FMS L0 DSM
Entries 1830240
QT8(3) sum
QT board

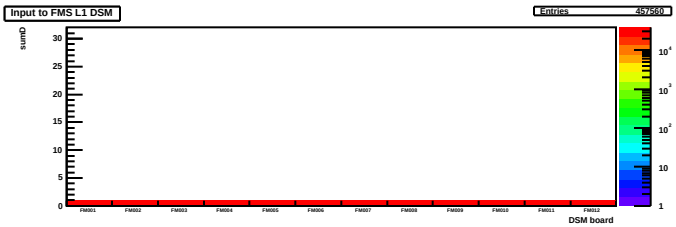

Input to FMS L0 DSM
Entries 305040
QT8(3) sum - simulated
QT board

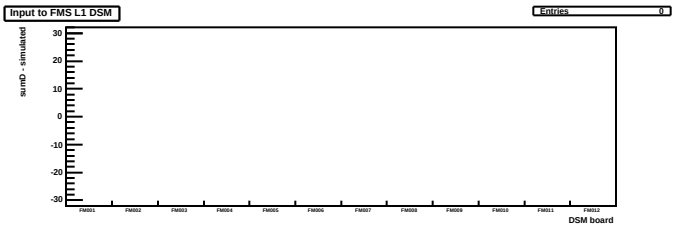

Input to FMS L0 DSM
Entries 1830240
HT ADC
QT board

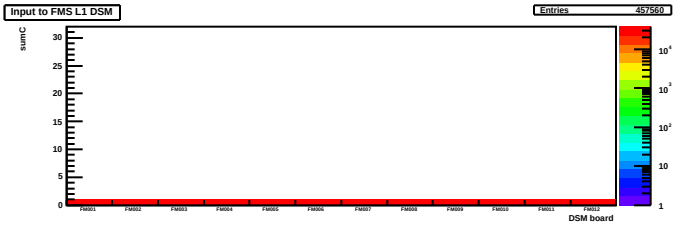

Input to FMS L0 DSM
Entries 305040
HT ADC - simulated
QT board

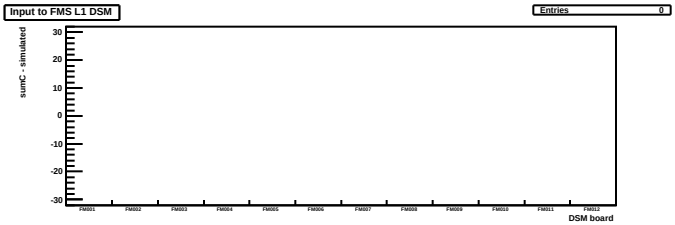

Input to FMS L0 DSM
Entries 1830240
HT ID
QT board

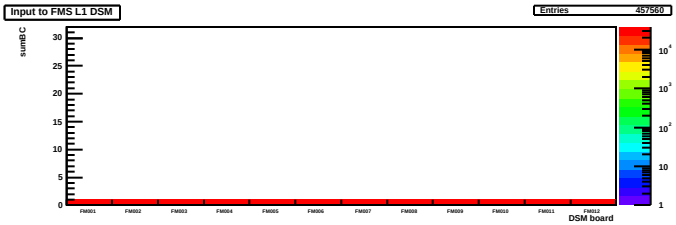

Input to FMS L0 DSM
Entries 305040
HT ID - simulated
QT board

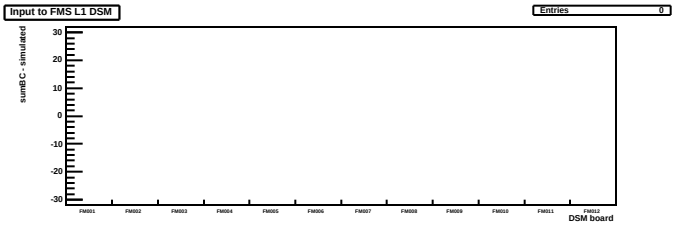

Input to FMS L1 DSM
Entries 457560
sumD
DSM board

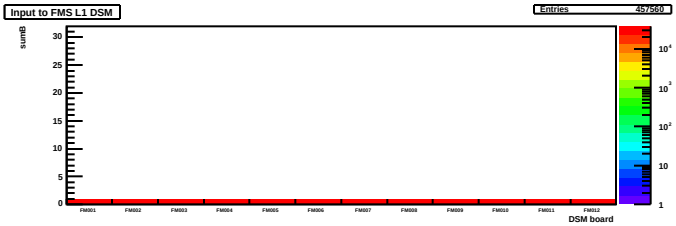

Input to FMS L1 DSM
Entries 0
sumD - simulated
DSM board

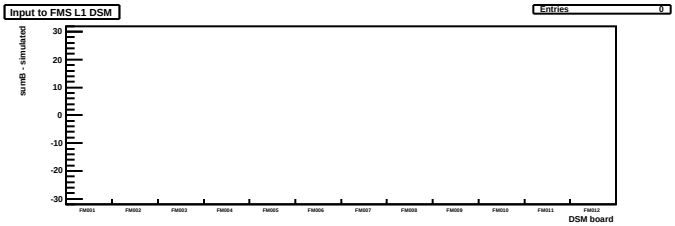

Input to FMS L1 DSM
Entries 457560
sumC
DSM board

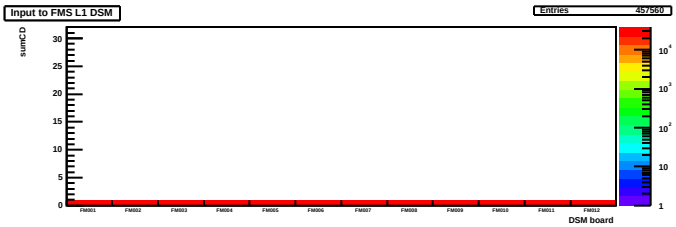

Input to FMS L1 DSM
Entries 0
sumC - simulated
DSM board

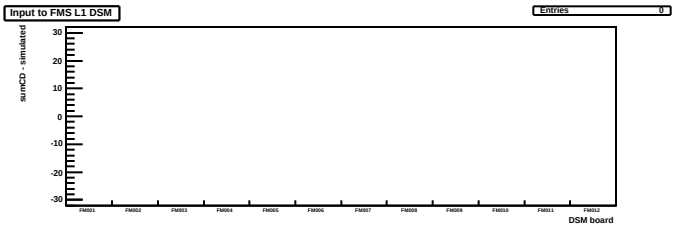

Input to FMS L1 DSM
Entries 457560
sumBC
DSM board

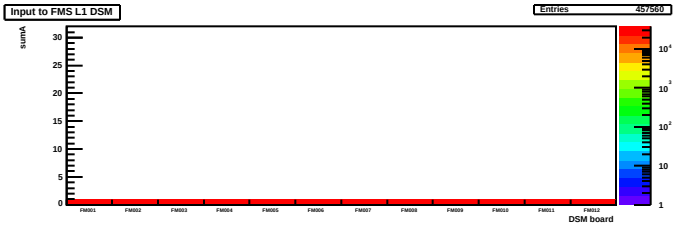

Input to FMS L1 DSM
Entries 0
sumBC - simulated
DSM board

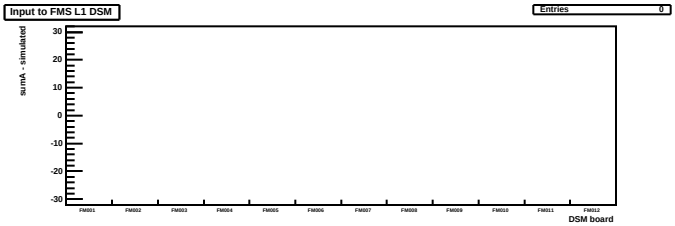

Input to FMS L1 DSM
Entries 457560
sumB
DSM board

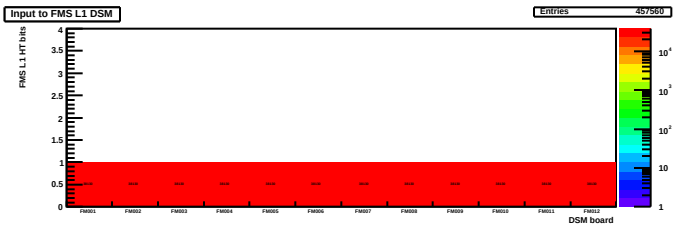

Input to FMS L1 DSM
Entries 0
sumB - simulated
DSM board

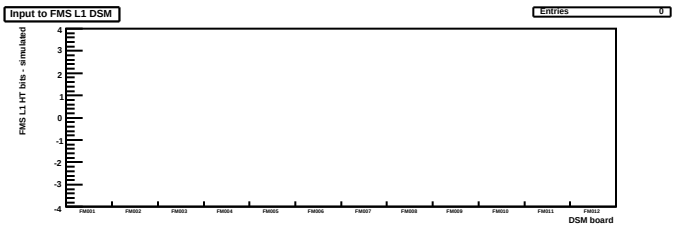

Input to FMS L1 DSM
Entries 457560
sumCD
DSM board

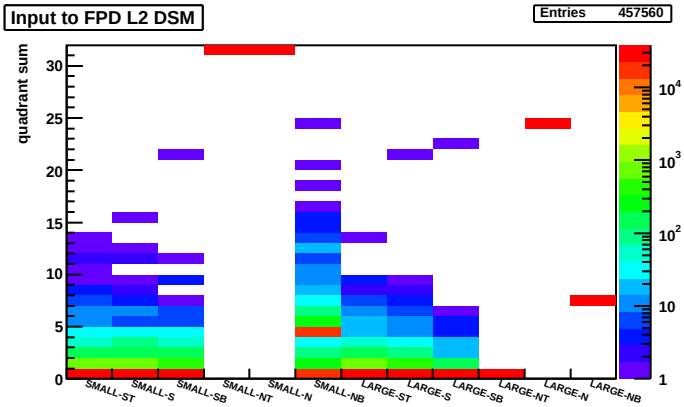

Input to FMS L1 DSM
Entries 0
sumCD - simulated
DSM board

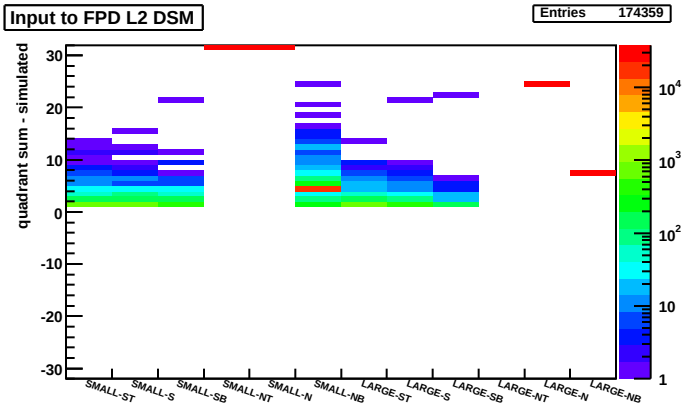

Input to FMS L1 DSM
Entries 457560
sumA
DSM board

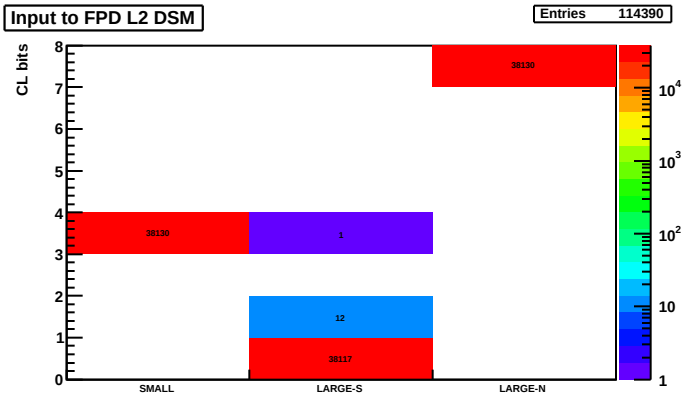

Input to FMS L1 DSM
Entries 0
sumA - simulated
DSM board

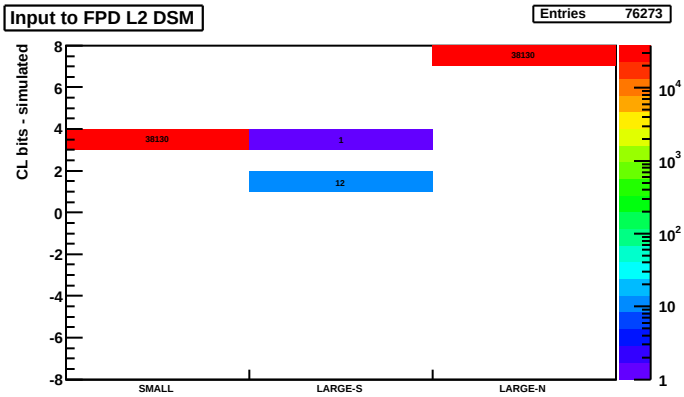

Input to FMS L1 DSM
Entries 457560
FMS L1 HT bits
DSM board

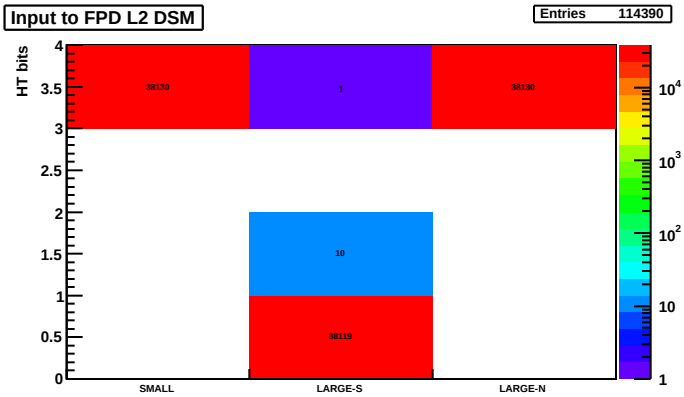

Input to FMS L1 DSM
Entries 0
FMS L1 HT bits - simulated
DSM board

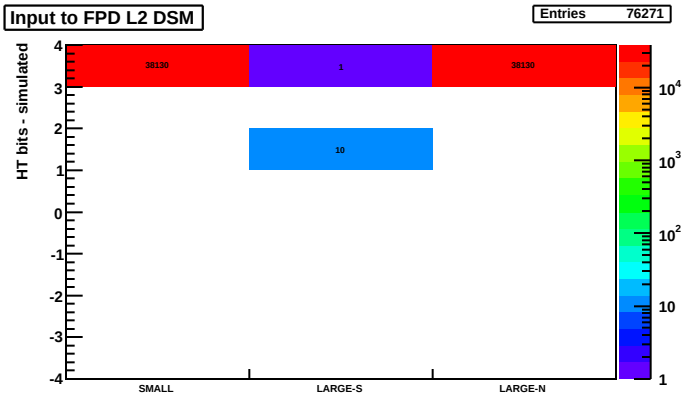

Input to FPD L2 DSM
Entries 457560
quadrant sum
SMALL-ST
SMALL-S
SMALL-SB
SMALL-NT
SMALL-N
SMALL-NB
LARGE-ST
LARGE-S
LARGE-SB
LARGE-NT
LARGE-N
LARGE-NB

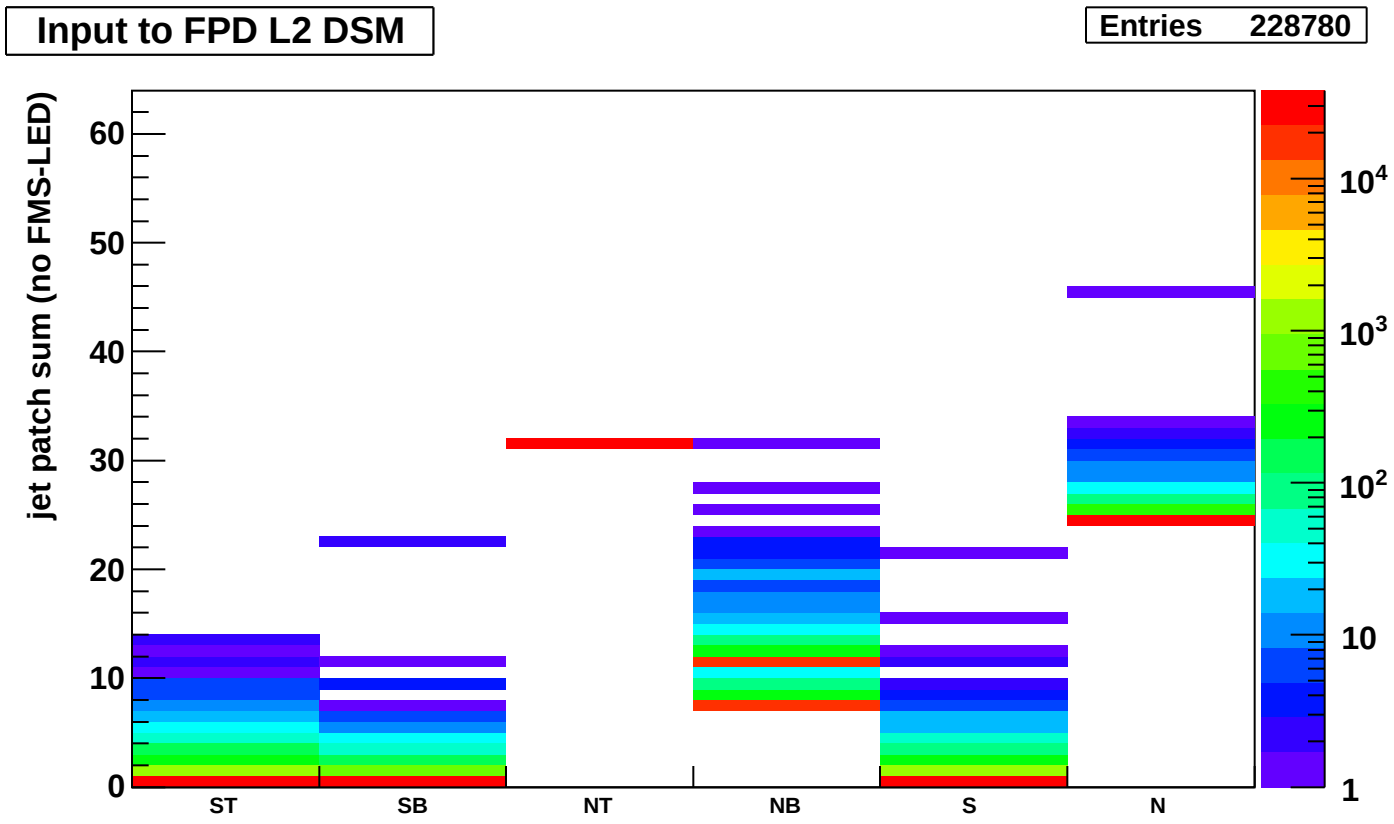

Input to FPD L2 DSM
Entries 174359
quadrant sum - simulated
SMALL-ST
SMALL-S
SMALL-SB
SMALL-NT
SMALL-N
SMALL-NB
LARGE-ST
LARGE-S
LARGE-SB
LARGE-NT
LARGE-N
LARGE-NB

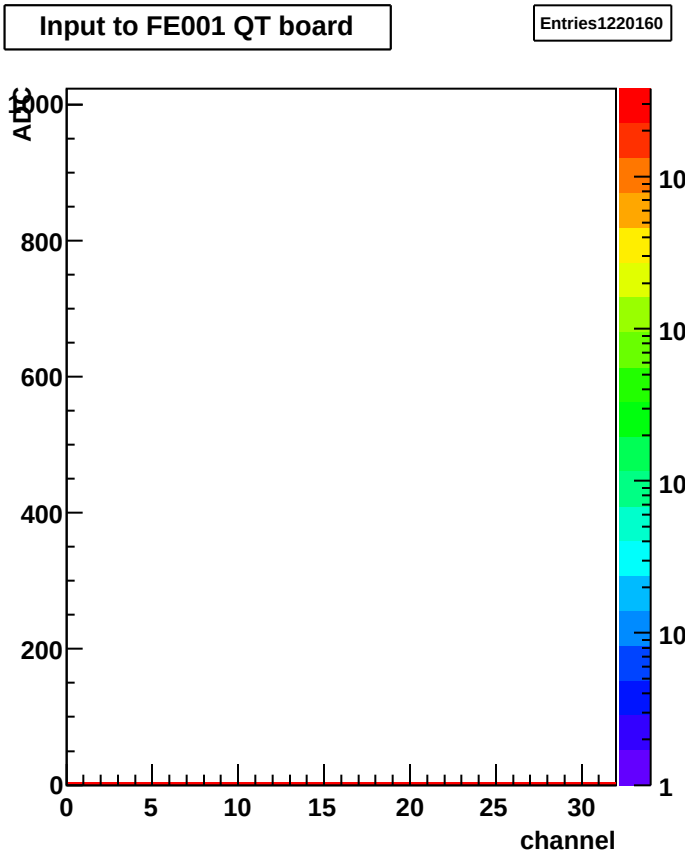

Input to FPD L2 DSM
Entries 114390
CL bits
38130
1
12
38117
SMALL
LARGE-S
LARGE-N

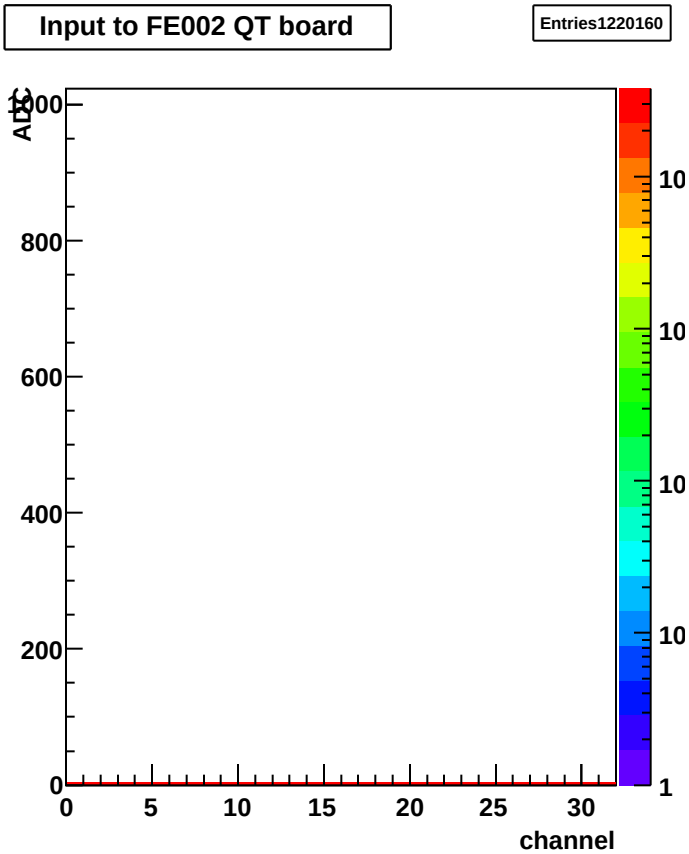

Input to FPD L2 DSM
Entries 76273
CL bits - simulated
38130
1
12
SMALL
LARGE-S
LARGE-N

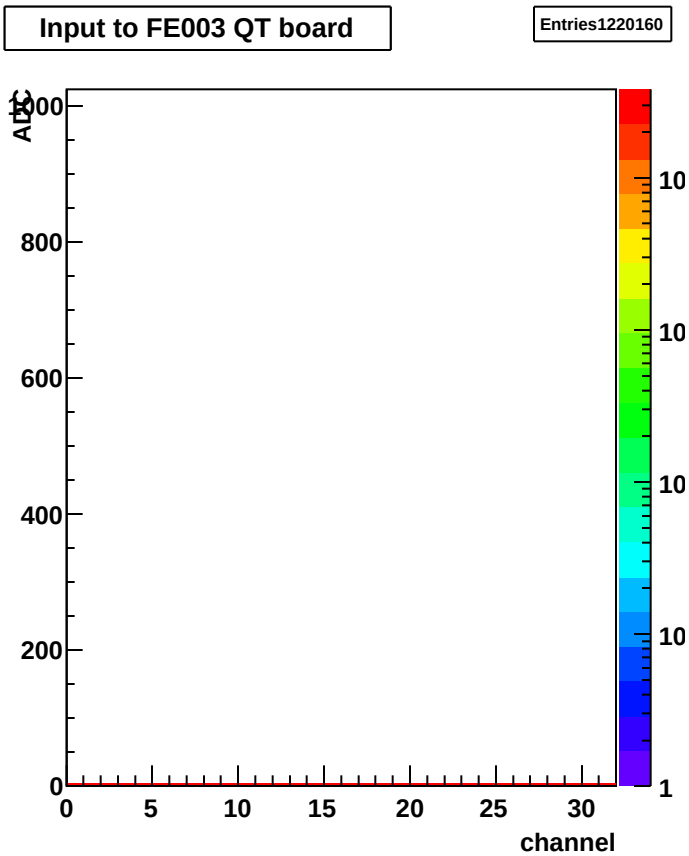

Input to FPD L2 DSM
Entries 114390
HT bits
38130
1
10
38119
SMALL
LARGE-S
LARGE-N

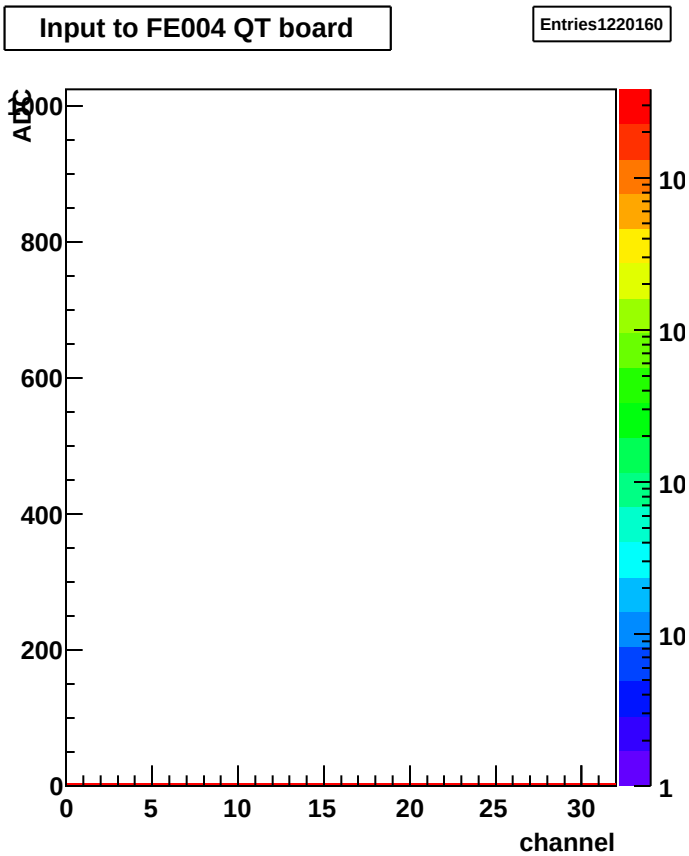

Input to FPD L2 DSM
Entries 76271
HT bits - simulated
38130
1
10
SMALL
LARGE-S
LARGE-N

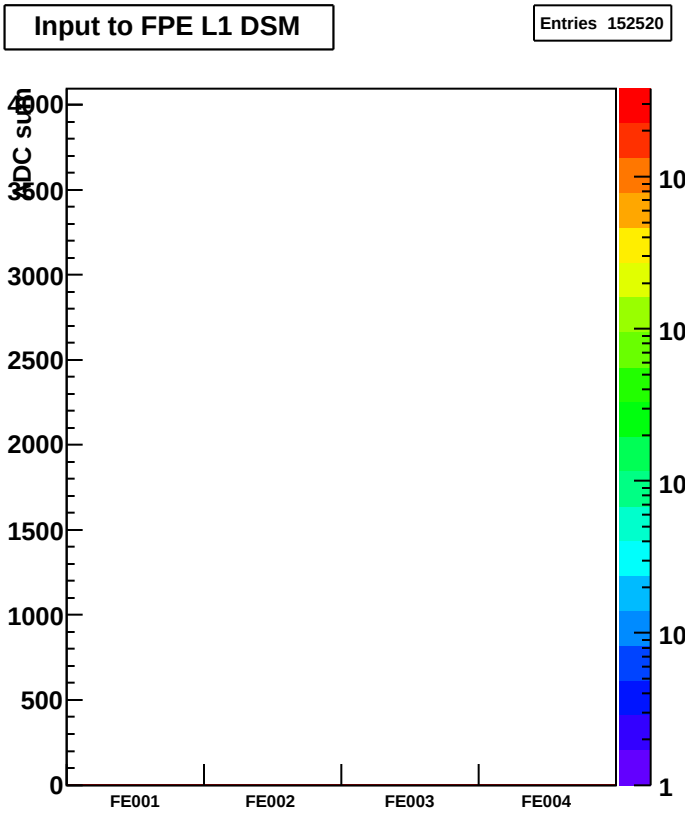

Input to FPD L2 DSM
Entries 228780
jet patch sum (no FMS-LED)
0
10
20
30
40
50
60
ST
SB
NT
NB
S
N
1
10
10^2
10^3
10^4

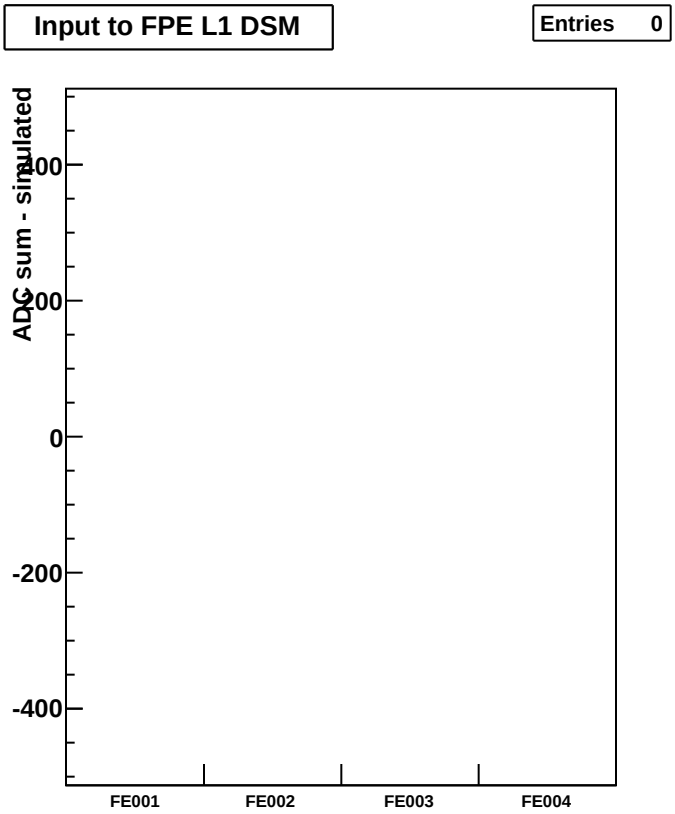

Input to FE001 QT board
Entries1220160
ADC
channel

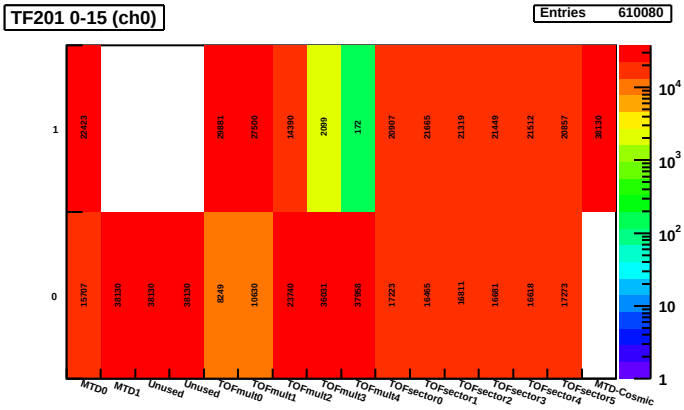

Input to FE002 QT board
Entries1220160
ADC
channel

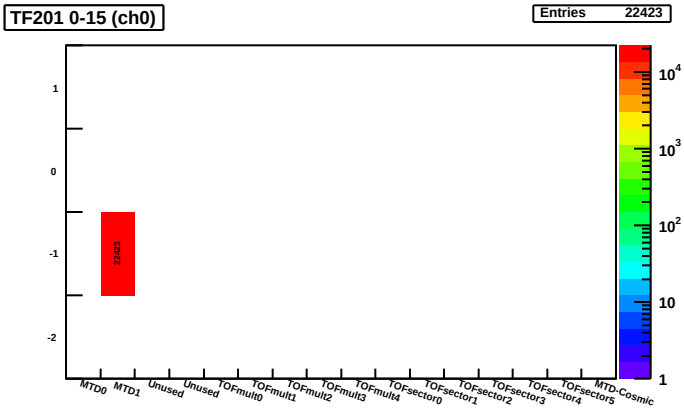

Input to FE003 QT board
Entries1220160
ADC
channel

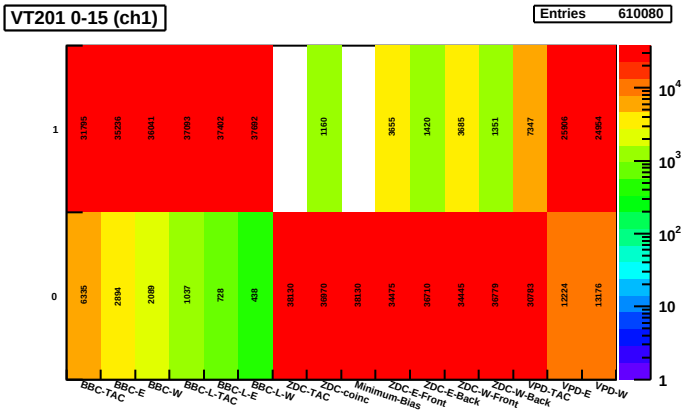

Input to FE004 QT board
Entries1220160
ADC
channel

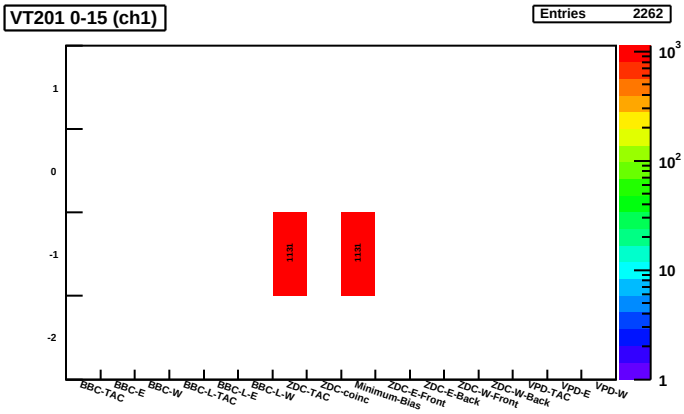

Input to FPE L1 DSM
Entries 152520
ADC sum
4000
3500
3000
2500
2000
1500
1000
500
0
FE001
FE002
FE003
FE004
10
10
10
10
1

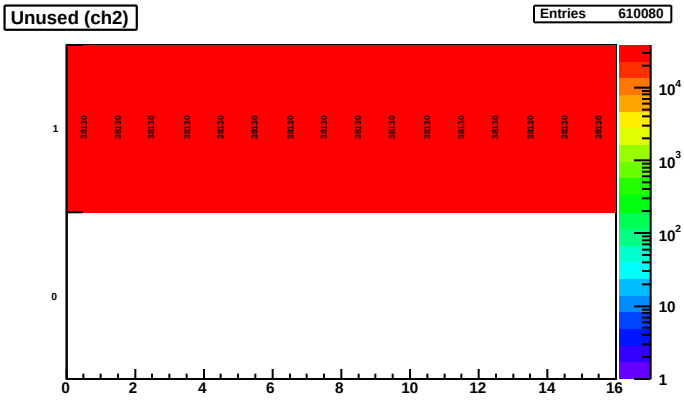

Input to FPE L1 DSM
Entries 0
ADC sum - simulated
0
-200
-400
FE001
FE002
FE003
FE004

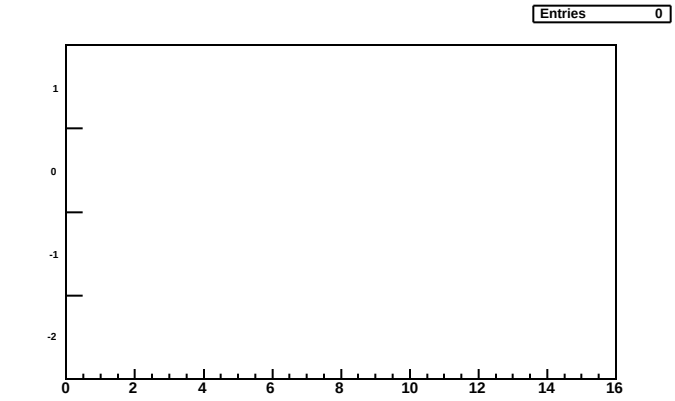

TF201 0-15 (ch0)
Entries 610080
MTD0 MTD1 Unused Unused TOFmult0 TOFmult1 TOFmult2 TOFmult3 TOFmult4 TOFsector0 TOFsector1 TOFsector2 TOFsector3 TOFsector4 TOFsector5 MTD-Cosmic

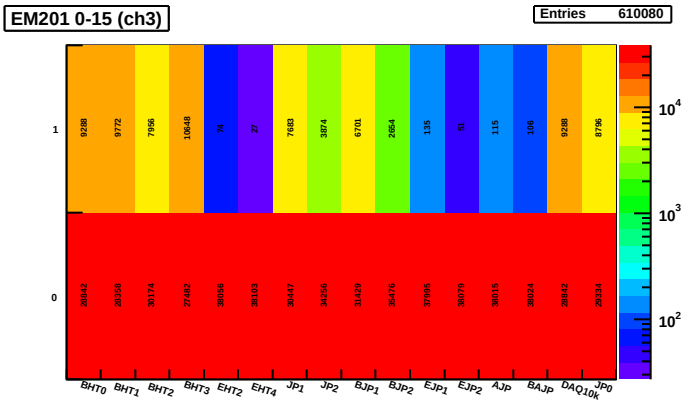

TF201 0-15 (ch0)
Entries 22423
MTD0 MTD1 Unused Unused TOFmult0 TOFmult1 TOFmult2 TOFmult3 TOFmult4 TOFsector0 TOFsector1 TOFsector2 TOFsector3 TOFsector4 TOFsector5 MTD-Cosmic


VT201 0-15 (ch1)
Entries 610080
BBC-TAC BBC-E BBC-W BBC-L-TAC BBC-L-E BBC-L-W ZDC-TAC ZDC-coinc Minimum-Bias ZDC-E-Front ZDC-E-Back ZDC-W-Front ZDC-W-Back VPD-TAC VPD-E VPD-W


VT201 0-15 (ch1)
Entries 2262
BBC-TAC BBC-E BBC-W BBC-L-TAC BBC-L-E BBC-L-W ZDC-TAC ZDC-coinc Minimum-Bias ZDC-E-Front ZDC-E-Back ZDC-W-Front ZDC-W-Back VPD-TAC VPD-E VPD-W


Unused (ch2)
Entries 610080


Entries 0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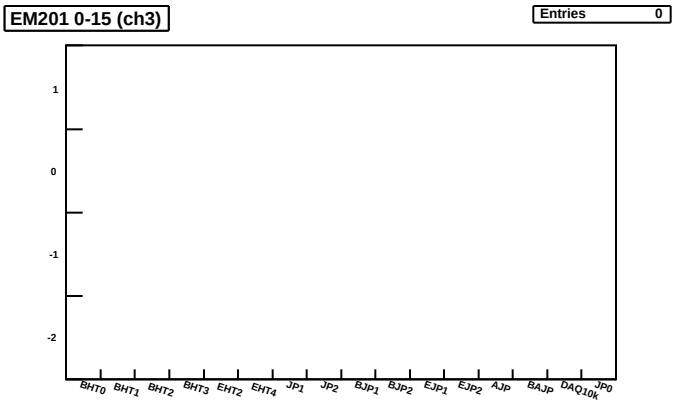
EM201 0-15 (ch3)
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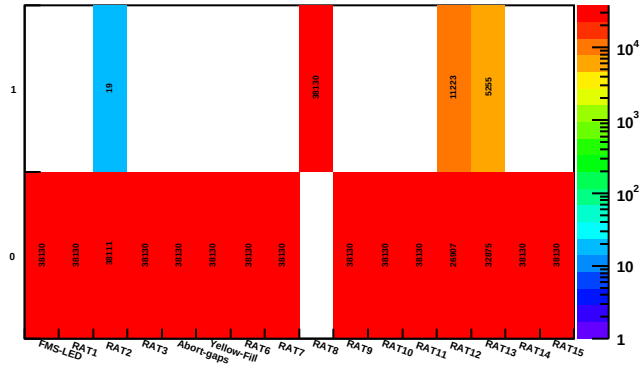
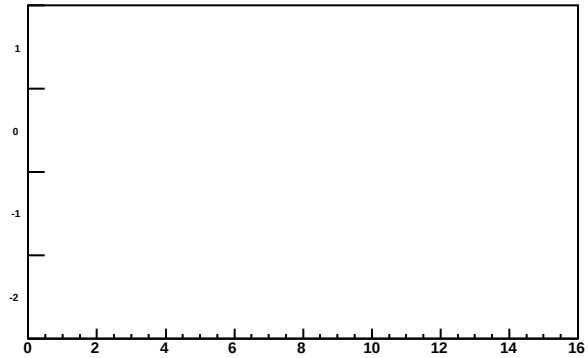
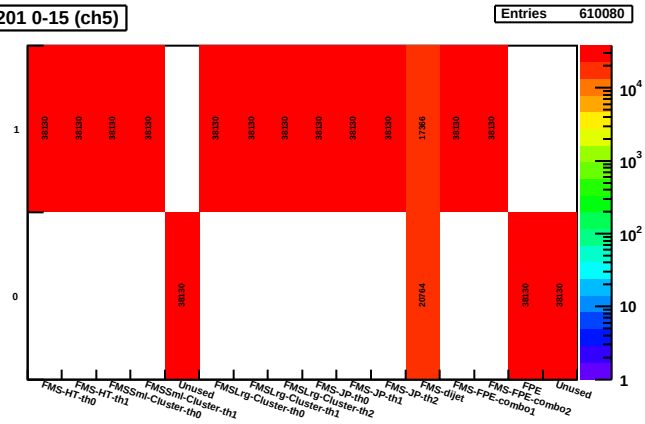
RAT board (ch4)

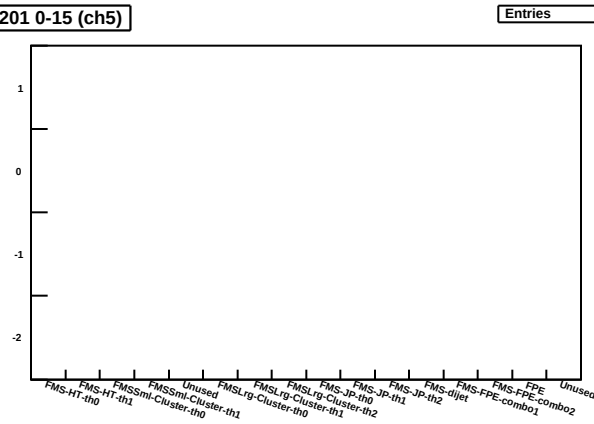




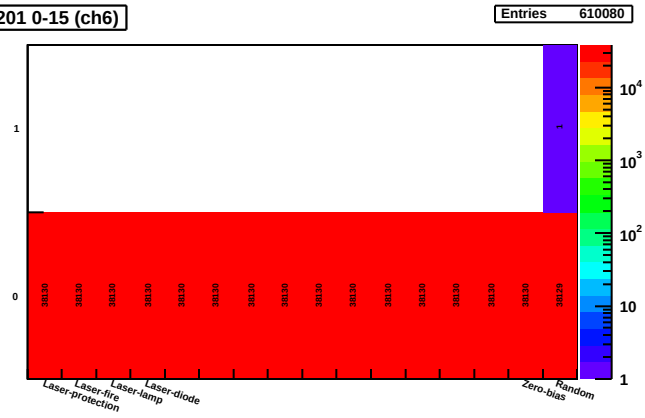
FP201 0-15 (ch5)

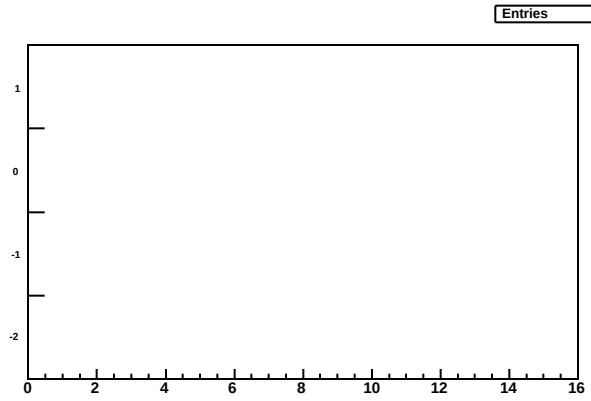
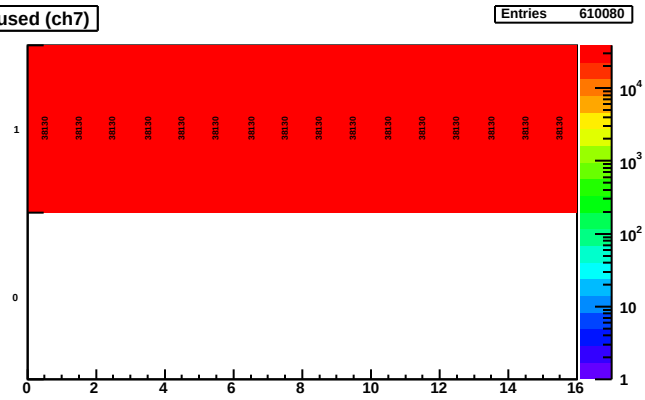
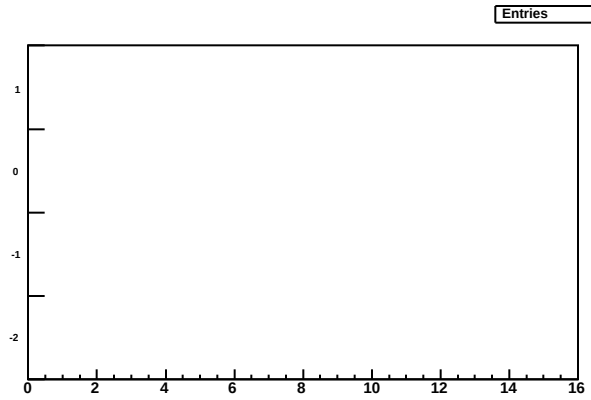


FP201 0-15 (ch5)



ST201 0-15 (ch6)





Unused (ch7)